Learning ARITHMETIC

4

LENNES · ROGERS · TRAVER

MULTIPLICATION TABLES

1 ×0 = 0	2 ×0 = 0	3 ×0 = 0	4 ×0 = 0	5 ×0 = 0	6 ×0 = 0	7 ×0 = 0	8 ×0 = 0	9 ×0 = 0
1 ×1 = 1	2 ×1 = 2	3 ×1 = 3	4 ×1 = 4	5 ×1 = 5	6 ×1 = 6	7 ×1 = 7	8 ×1 = 8	9 ×1 = 9
1 ×2 = 2	2 ×2 = 4	3 ×2 = 6	4 ×2 = 8	5 ×2 = 10	6 ×2 = 12	7 ×2 = 14	8 ×2 = 16	9 ×2 = 18
1 ×3 = 3	2 ×3 = 6	3 ×3 = 9	4 ×3 = 12	5 ×3 = 15	6 ×3 = 18	7 ×3 = 21	8 ×3 = 24	9 ×3 = 27
1 ×4 = 4	2 ×4 = 8	3 ×4 = 12	4 ×4 = 16	5 ×4 = 20	6 ×4 = 24	7 ×4 = 28	8 ×4 = 32	9 ×4 = 36

MULTIPLICATION TABLES

1 ×5 = 5	2 ×5 = 10	3 ×5 = 15	4 ×5 = 20	5 ×5 = 25	6 ×5 = 30	7 ×5 = 35	8 ×5 = 40	9 ×5 = 45
1 ×6 = 6	2 ×6 = 12	3 ×6 = 18	4 ×6 = 24	5 ×6 = 30	6 ×6 = 36	7 ×6 = 42	8 ×6 = 48	9 ×6 = 54
1 ×7 = 7	2 ×7 = 14	3 ×7 = 21	4 ×7 = 28	5 ×7 = 35	6 ×7 = 42	7 ×7 = 49	8 ×7 = 56	9 ×7 = 63
1 ×8 = 8	2 ×8 = 16	3 ×8 = 24	4 ×8 = 32	5 ×8 = 40	6 ×8 = 48	7 ×8 = 56	8 ×8 = 64	9 ×8 = 72
1 ×9 = 9	2 ×9 = 18	3 ×9 = 27	4 ×9 = 36	5 ×9 = 45	6 ×9 = 54	7 ×9 = 63	8 ×9 = 72	9 ×9 = 81

LEARNING ARITHMETIC

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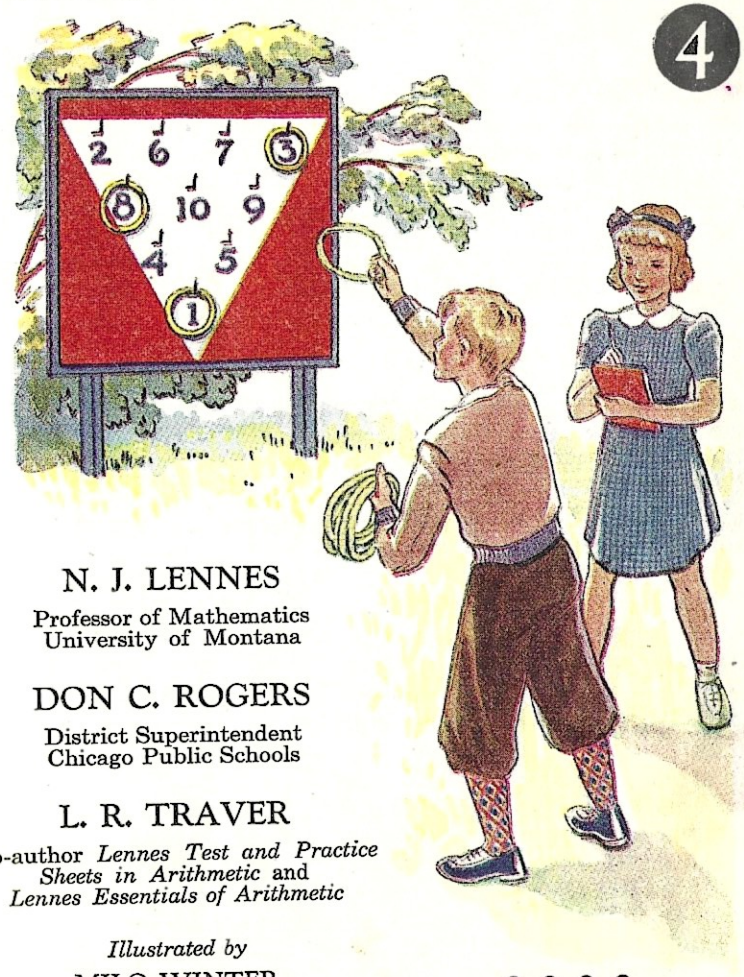

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TEACHER'S FOREWORD

Objective. This series—LEARNING ARITHMETIC—has as its chief objective the development of the pupil's understanding and skill in the *fundamental operations* and in *problem solving*. To attain this objective, correct teaching and learning techniques have been employed, the subject matter has been scientifically constructed and graded, and ample practice for the development of essential skills has been provided.

Organization. To enable teachers to plan their work and allot a proportionate and adequate amount of time to the various topics, the lessons have been grouped into fairly short units. Each unit covers approximately one week's work.

After every four units there is a self-test, reviewing all work covered up to that time. These self-tests show the pupil his strong and weak points and also provide the teacher with diagnostic information covering each pupil's achievements.

The placement of topics and the gradual introduction of the subject matter meet the requirements of the most recent investigations and courses of study.

Increased emphasis is given to the well-known "hard spots" in arithmetic, namely: column addition, problem solving, subtraction, long division, addition and subtraction of fractions, division of decimals, and percentage.

Constant stress is placed upon accuracy in computation rather than upon speed.

A balanced treatment has been provided for both phases of arithmetic—practice in the fundamental operations and in problem solving. The pupil attains skill in problem solving through his mastery of the comparatively few basic type-problems used in everyday life.

In solving problems pupils are directed to take these natural steps: (1) to find the facts and the question in the problem, (2) to choose the correct operation, and (3) to make the required computation. An original plan is employed, by which the pupils use the letters A, S, M, or D to record the results of their "thinking before figuring."

The problems offer an unusually rich variety of social situations common to the experiences and needs of all children. Pupil interest is maintained through frequent pages of related problems based upon familiar activities. Alert teachers and pupils will discover suggestions for many additional projects.

The exercises in the fundamental operations and in problem solving are scientifically constructed to provide adequate practice for the development and maintenance of skill in all basic number facts, the fundamental operations, and practical type-problems.

Vocabulary. Careful attention has been given throughout the series to the use of a simple and yet adequate vocabulary. In each grade the words used have been kept well within the range of the reading vocabulary for that particular grade. The vocabulary has been checked against the various word lists now available.

Recommendations to Teachers. Carrying out the following suggestions will result in successful pupil achievement:

1. Stress accuracy rather than speed. Allow pupils to work at the speed best adapted to their own needs. See that pupils take time to do accurate work, to prove their work, to find and correct their errors, and to find the reason for any incorrect work.

2. In the initial learning stage, take time to help pupils grasp the meaning and relation of number facts, the explanations and directions, the new steps in the fundamental operations, and the new type-problem situations.

THE AUTHORS

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Unit 1. Review of Addition and Subtraction

Buying Things Needed for School

On the first day of school the children of Miss White's room went to the school store to buy their supplies. Here are some of their purchases:

1. Fred paid 8¢ for writing paper and 98¢ for a fountain pen. How much did he spend?

2. Ruth bought a 5¢ ruler, a 15¢ box of paints, and a 9¢ pad of paper. What did they cost?

3. Jack bought 12¢ worth of writing paper. What change should he get from a quarter?

4. Alice has 95¢. How much more does she need to buy a reader costing $1.28?

5. Frank paid 9¢ for 3 pencils, 6¢ for a pad of paper, and 4¢ for an eraser. Find the cost.

6. Ben bought a history for $1.20, a large bottle of ink for 15¢, and a box of paints for 36¢. Find the cost.

7. Dick bought a $2 set of tools on sale for $1.49. How much did he save on the set of tools?

8. Ellen bought a speller for 40¢. What was her change from a one-dollar bill?

9. Make a list of several of the books you need this month and find their cost. Do the same for school supplies.

How Much Do You Remember?

Add the following. Number lines on a sheet of paper. Place the top of the paper under the first row of examples and write the answers on the first line of your paper. Then fold back the top of your paper and write the answers to the second row of examples.

1.	7	3	4	9	5	3	7	4	9
	8	9	7	9	5	8	6	8	7
	15	12	11	18	10	11	13	12	16
2.	5	9	2	5	9	8	3	4	6
	8	6	8	9	2	8	7	9	8
	13	15	10	14	11	16	10	13	14
3.	8	5	8	6	8	9	5	8	6
	6	7	4	9	3	5	8	9	7
	14	12	12	15	11	14	13	17	13
4.	4	9	5	7	8	7	6	9	8
	6	8	6	7	5	9	6	4	7
	10	17	11	14	13	16	12	13	15

Subtract the following. Prove by adding the subtrahend and the remainder.

5.	12	15	11	18	11	12	15	10	13
	3	6	2	9	7	4	7	5	6
	9	9	9	9	4	8	8	5	7
6.	14	10	13	10	14	10	16	10	11
	8	3	8	9	5	4	9	8	3
	6	7	5	1	9	6	7	2	8
7.	13	12	17	12	15	11	13	10	14
	9	6	8	5	9	4	7	1	7
	4	6	9	7	6	7	6	9	7
8.	10	16	11	14	12	10	17	11	13
	6	8	5	6	8	2	9	6	4
	4	8	6	8	4	8	8	5	9

Should You Add or Subtract?

Follow these steps in working problems: (1) Read each problem to see what it tells and what it asks you to find. (2) Decide whether you should add or subtract. After the number of each problem on your paper write A if you should add or S if you should subtract. (3) Then work the problems.

1. Jack had 3 cents and earned 9 cents more. How much money did he have then?

$$\begin{array}{r} 3 \\ +9 \\ \hline 12 \end{array}$$

2. Frank had 14¢ and spent 5¢ for a top. How much money did he have left?

$$\begin{array}{r} 14 \\ -5 \\ \hline 9 \end{array}$$

3. Ruth had 6¢ and her mother gave her 4¢. How much did she have then?

4. Fred had 12 marbles and gave 5 of them to his brother. How many marbles did he keep?

5. There are 9 girls and 6 boys in Helen's class. How many children are there in her class?

6. Dick invited 14 children to his party. Of these children, 8 were girls. How many boys did he invite?

7. Jane wants to buy a 10-cent doll. She has 6¢. How much more money does she need?

8. Ben has a story of 16 pages to read. After reading 9 pages during library period, how many pages does he still have to read?

9. Fred bought a book for 20¢. He handed the clerk a half dollar. What was his change?

Addition by Endings

1. Dick spent 15¢ for lunch and 3¢ for a pencil. How much did he spend for both?

5	15
3	3
8	18

From 5+3=8, you can see at once that 15+3=18.

2. The next day Dick spent 25¢ for lunch and 3¢ for an eraser. How much did these cost him?

5	25
3	3
8	28

From 5+3=8, you can see that 25+3=28.

Write sums for the following on folded paper:

3.	2	12	22	3	13	23	4	14	24
	3	3	3	4	4	4	2	2	2
4.	2	12	22	6	16	26	3	13	23
	5	5	5	3	3	3	2	2	2
5.	1	11	21	6	16	26	1	11	21
	6	6	6	2	2	2	4	4	4
6.	4	14	5	15	4	24	1	11	21
	1	1	3	3	4	4	7	7	7
7.	3	13	2	24	4	14	3	13	23
	5	5	4	4	5	5	6	6	6
8.	3	23	2	22	1	11	1	11	21
	3	3	6	6	5	5	8	8	8
9.	2	22	5	15	2	22	0	10	20
	2	2	2	2	7	7	6	6	6

Add or Subtract?

Read each problem. On your paper write A if you should add or S if you should subtract. Then work the problems.

1. Fred is going to the store for a 7-cent loaf of bread and a 6-cent bar of soap. How much money does he need to pay for these?

7
+6

2. Jack wants a ball that costs 15¢. He has saved 8¢. How many cents more does he need?

15
−8
7

3. Ruth is 9 years old. How old will she be 4 years from now?

4. Fred is 8 years old, and his brother Ray is 14 years old. Ray is how many years older?

5. Ida is 12 years old, and Alice is 9 years old. Alice is how many years younger than Ida?

6. Frank worked 11 problems. He had 2 answers wrong. How many did he have right?

7. In her test Charlotte had 1 problem wrong and 9 problems right. How many problems did she have in the test?

8. Ellen cut 12 roses and 9 daisies.. How many flowers did she cut?

9. Alice paid 10¢ for a ruler and 2¢ for a pen. How much money did she spend?

Adding Three Numbers

1. Ben bought a 6¢ tablet, a 9¢ notebook, and a 4¢ eraser. Find the cost.

6
9
4
19

To find the cost, add the three numbers. Write the numbers in a column and add downward. Think 15, 19. Write 19. To check the sum, add upward. Think 13, 19. The cost is 19¢.

2. What would Ben have spent if he had bought a 7¢ ruler, a 3¢ pencil, and an 8¢ tablet?

Add the following. Write the sums on folded paper. Then check each sum by adding upward.

3.	2 3 9 / 14	9 2 6 / 17	2 6 9 / 17	7 3 7 / 17	2 7 3 / 12	8 2 9 / 19	2 4 3 / 9	4 6 5 / 15	2 5 3 / 13
4.	8 3 7 / 18	3 5 6 / 14	5 2 9 / 16	1 4 6 / 11	6 4 3 / 13	5 7 6 / 18	3 6 5 / 14	7 6 3 / 16	4 3 5 / 12
5.	6 7 4 / 17	3 7 6 / 16	7 2 4 / 13	4 8 6 / 18	7 1 4 / 12	5 2 7 / 14	6 2 8 / 16	4 5 7 / 16	2 8 8 / 18
6.	1 7 3 / 11	3 2 8 / 13	4 4 7 / 15	3 4 6 / 13	1 6 7 / 14	4 5 8 / 17	5 2 4 / 11	2 4 8 / 14	3 4 6 / 13
7.	4 2 9 / 15	6 1 6 / 13	3 3 4 / 10	6 3 6 / 15	4 1 7 / 12	3 5 5 / 13	8 4 7 / 15	4 2 5 / 11	8 1 9 / 18

Unit 2. Practice in Addition and Subtraction

Adding by Endings

1. Ruth spent 15¢ for a tablet and 8¢ for crayons. How much did she spend for both?

Add 15 and 8 to find the answer. From 5+8=13, you see at once that 15+8=23. Ruth spent 23¢.

5	15
8	8
13	23

Read, and give the sums for the numbers below:

2. 4+5=9 14+5=19 **3.** 8+6=14 18+6=24

4. 3+7=10 13+7=20 **5.** 6+5=11 16+5=21

6. 6+9=15 16+9=25 **7.** 7+6=13 17+6=23

8. 7+8=15 17+8=25 **9.** 8+4=12 18+4=22

10. 8+5=13 18+5=23 **11.** 9+5=14 19+5=24

12.	8 7 / 15	18 7 / 25	3 9 / 12	13 9 / 22	5 6 / 11	15 6 / 21	8 3 / 11	18 3 / 21
13.	12 9 / 21	16 6 / 22	14 8 / 22	13 8 / 21	14 9 / 23	19 2 / 21	16 7 / 23	19 6 / 25
14.	7 14 / 21	6 18 / 24	5 17 / 22	8 19 / 27	5 19 / 24	9 18 / 27	3 17 / 20	9 19 / 28
15.	4 19 / 23	8 15 / 23	5 18 / 23	5 19 / 24	4 18 / 22	7 16 / 23	4 17 / 21	9 16 / 25
16.	8 17 / 25	19 7 / 26	8 16 / 24	17 9 / 26	5 16 / 21	17 7 / 24	8 18 / 26	17 6 / 23

Should You Add or Subtract?

For each problem decide whether you should add or subtract. On your paper write A for add or S for subtract. Then work the problems.

1. Jane had 14¢ in her bank, and she put in 5¢ more. How much did she have in her bank then?

2. Fred had 12 problems to work. After working 8 of them, how many problems did he still have to work?

3. Jane ironed 12 doll dresses in one hour and 7 in another hour. How many did she iron?

4. Fred had 9¢. He earned 6¢, and his father gave him 5¢. How many cents did he have then?

5. Ray has saved $9 to buy a $14 watch. How many dollars more does he need to buy the watch?

6. Helen invited 15 children to her party. Seven were girls. How many boys did she invite?

7. Ida had 17¢ in her purse. After paying 9¢ for three stamps, how much money did she have?

8. After spending 15¢ for a ribbon, Charlotte had 5¢ left in her purse. How much money did she have at first?

9. Jack has 9 marbles. He wants to buy enough marbles to make 16 in all. How many marbles does he need to buy?

10. At a club picnic last summer there were 5 women, 4 men, and 9 children. How many people were there at the picnic?

Practice in Column Addition

Practice until you can add each column quickly and correctly. Write the sums. Check each sum.

1.	9	5	7	3	9	5	6	8	7
	8	9	8	9	9	6	6	8	7
	6	8	8	9	7	6	8	6	8
	23	22	23	21	25	17	20	22	23
2.	6	4	6	5	4	9	5	7	5
	8	8	7	7	9	7	8	7	9
	8	9	8	9	8	6	8	9	6
	22	21	21	21	21	22	21	23	20
3.	8	7	6	8	9	5	7	6	9
	6	9	9	8	5	9	7	9	7
	9	5	9	7	9	8	7	6	8
	23	21	24	23	23	22	21	21	24
4.	9	7	8	9	5	8	4	8	4
	9	8	6	7	9	7	9	8	8
	9	7	9	7	9	7	9	7	9
	27	22	23	23	23	22	22	23	21
5.	8	9	8	7	6	7	8	9	4
	7	8	6	8	9	6	5	7	9
	9	7	9	9	8	9	7	9	7
	24	24	23	24	23	22	20	25	20

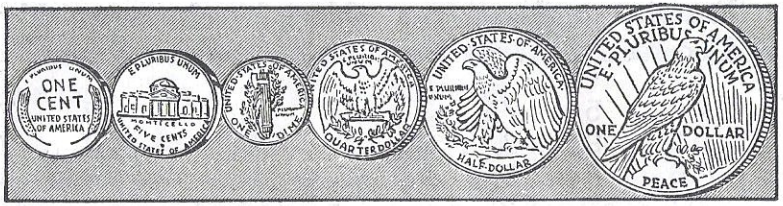
Problems

1. Frank sold 8 magazines on Monday, 5 on Tuesday, and 9 on Wednesday. How many did he sell?

2. Dick can buy a used bicycle for $14. He has saved $8. How many dollars more does he need?

3. Jane was watching her mother put up fruit. She filled 8 glasses with strawberry jam, 7 with peach jam, and 9 with apple butter. How many glasses did she fill?

Using United States Money



See whether you can name each of the coins above without reading what is on it.

Under the name of each coin below you will find the number of smaller coins that equal it. Study this list until you can write it on your paper.

Nickel	Dime	Quarter	Half Dollar	Dollar
5 cents	10 cents 2 nickels	25 cents 5 nickels	50 cents 10 nickels 5 dimes 2 quarters	100 cents 20 nickels 10 dimes 4 quarters 2 half dollars

1. Find out what groups of coins equal a quarter.

Example: 1 dime + 2 nickels + 5 cents = a quarter.

Change each group of coins below to cents:

2. Three nickels and 1 dime. 16¢
3. A quarter, 3 dimes, and 2 nickels. 65
4. A half dollar, 1 quarter, and 3 nickels. 75
5. A quarter, 2 dimes, 3 nickels, and 8 cents. 68
6. Four dimes, 5 nickels, and 4 cents. 69
7. A half dollar, 1 quarter, 1 dime, and 1 nickel. 90

How to Make Change

Miss White's class made a corner of their room into a grocery store and filled it with cans and packages. The boys and girls bought and sold the groceries.

1. Alice bought 3 cans of peas for 23¢ and handed the clerk a half dollar. How much change was she to get? The clerk said, "23¢"; then he gave 2¢, saying, "24, 25"; a nickel, saying, "30"; then two dimes, saying, "40, 50." He really added from 23 to 50.

2. Fred bought some oatmeal for 14¢ and gave the clerk a half dollar. The clerk gave Fred 1 cent, 1 dime, and 1 quarter, saying, "14, 15, 25, 50." Was Fred's change correct?

3. Write the numbers you would say in making change from 25¢ for each of these purchases: 18¢, 15¢, 12¢, 9¢, 11¢, 4¢, 21¢, 7¢, 3¢.

4. Write the numbers to say in making change from 50¢ for each of these sales: 15¢, 11¢, 3¢, 8¢, 24¢, 32¢, 27¢, 18¢, 37¢.

5. Count the change from $1 for each purchase: 20¢, 15¢, 36¢, 6¢, 27¢, 22¢, 53¢, 12¢, 28¢, 42¢, 63¢, 84¢, 17¢, 21¢, 41¢, 35¢, 69¢, 48¢.

Practice in Addition

1. Ray spent 27¢ for lunch and 6¢ for carfare. How much did he spend?

7	27
6	6
13	33

From 7+6=13, you can see at once that 27+6=33.

Add the following quickly; then write the sums.

2.	5	15	25	26	7	17	27	23
	9	9	9	7	8	8	8	8
	14	24	34	33	15	25	35	31
3.	17	26	28	24	28	27	19	18
	5	8	9	5	4	8	5	7
	22	34	37	29	32	35	24	25
4.	7	19	27	25	5	9	7	6
	7	6	6	7	18	14	17	29
	14	15	33	32	13	13	14	35

Add the following. Write the sums on folded paper. To check, add upward.

5.	8	7	3	4	2	8	7	9	2
	7	6	6	8	3	9	4	5	6
	5	8	5	6	8	7	9	8	9
	25	24	13	18	13	24	20	22	17
6.	3	9	5	4	5	7	4	7	9
	7	8	6	3	8	9	8	5	8
	9	6	7	9	7	9	8	9	8
	19	23	18	16	20	25	20	21	25
7.	6	9	6	4	9	6	2	9	6
	7	9	6	5	4	9	5	2	8
	6	4	9	7	5	7	6	7	6
	19	22	21	16	18	22	13	18	20
8.	8	5	4	3	9	8	7	8	5
	6	3	9	8	6	8	2	5	7
	7	4	8	7	9	7	4	6	7
	21	12	21	18	24	23	13	19	19

Unit 3. Larger Numbers

Adding Two- and Three-Figure Numbers

1. Jack bought 3 books for 48¢, 64¢, and 79¢. What did they cost?

$.48
.64
.79
$1.91

Ones: Think 12, 21. Write 1 and carry 2 to the tens.

Tens: Think 6, 12, 19. Write 19. Write the decimal point. To check, add upward.

2. An auto traveled 457 miles one day and 238 miles a second day. How far did it go both days?

Add 457 and 238.

457
238
695

Ones: Think 7+8. Write 5 and carry 1 to tens' column.

Tens: Think 1+5+3. Write 9.

Hundreds: Think 4+2. Write 6. The sum is 695.

Add the numbers below. Check your sums.

1.	39	35	69	85	47	63	79	28
	95	24	57	53	87	74	49	95
	134	59	126	138	134	137	128	123
2.	74	89	25	69	94	58	42	48
	29	36	68	67	46	76	58	37
	103	125	193	136	140	134	100	85
3.	35	49	67	98	97	38	97	26
	89	78	23	70	38	52	25	38
	134	127	90	168	135	90	122	64
4.	586	736	478	239	657	568	709	
	849	264	909	974	869	478	894	
	1435	1000	1387	1213	1526	1046	1603	

Reading Dates, Addresses, and Money

Fred was born on January 21, 1933. He lives at 2416 Wells Street, and his telephone number is Main 5–6407.

January 21, 1933, is read January twenty-first, nineteen thirty-three.

2416 Wells Street is read twenty-four sixteen Wells Street.

Main 5–6407 is read Main five, six, four, oh, seven.

$25.55 is read 25 dollars and 55 cents.

$0.75 and $.75 are both read 75 cents.

Five cents may be written $0.05, $.05, or 5¢.

$56,480.50 is read 56 thousand, 480 dollars, and 50 cents.

Read the following:

1. June 20, 1890. 2115 Adams Street. Red 4058.

2. The ship sailed at 10:45 A.M., May 14, 1940.

3. Ellen was born on May 17, 1931. She lives at 54 Hall Street. Her telephone number is Black 8040.

4. $25 $25.00 $10,750.19 $48,675.04

5. $.08 $502.40 $68,045.10 $60,000.00

6. Report several examples of dates, street addresses, telephone numbers, money, and other large numbers to class. Be sure that you can read all of these numbers correctly.

Subtracting Larger Numbers

1. Ben weighs 65 pounds, and his father weighs 163 pounds. How much less does Ben weigh?

Ones: You cannot take 5 from 3. Add 10 to 3 and think 13. Think 13 − 5. Write 8.

Tens: You took 1 ten from 6 tens. Think 15 − 6. Write 9. The remainder is 98.

Proof: 65 + 98 = 163.

$$\begin{array}{r} 163 \\ -65 \\ \hline 98 \end{array}$$

To subtract when the upper figure in a column is less than the lower figure, (1) add 10 to the upper figure and subtract, and (2) take 1 from the next left-hand upper figure.

Prove the subtraction in each example below:

2.							
	39	67	54	986	167	600	803
	7	8	49	917	79	498	496
	32	59	5	69	88	102	307

Subtract the following. To prove, add the subtrahend and the remainder.

3.	503	726	800	704	605	700	805
	206	58	274	309	298	399	798
	297	668	526	395	307	301	007
4.	869	907	410	739	600	529	734
	536	609	208	665	189	475	529
	333	298	202	074	411	054	205
5.	456	811	502	604	933	589	625
	207	517	396	208	277	96	429
	249	294	206	396	656	493	196
6.	795	843	269	749	586	472	581
	416	621	122	204	233	148	362
	379	222	147	545	353	324	219

Reading and Writing Larger Numbers

Fred's cousin lives in Milwaukee. Fred wants to know how his cousin's city compares with other cities in population. He has used his geography in making a list of the twelve cities given below:

Detroit	1,623,452	Kansas City	399,178
Boston	770,816	Milwaukee	587,472
Cleveland	878,336	Minneapolis	492,370
Dallas	294,734	Omaha	223,844
Denver	322,412	St. Louis	816,048
Houston	384,514	San Francisco	634,536

Fred can read these numbers easily. He says: "Detroit, 1 million 623 thousand 452; Boston, 770 thousand 816; Cleveland, 878 thousand 336." When he writes large numbers, he places a comma between the hundreds and thousands, and a comma between the thousands and millions to read them easily.

1. Arrange Fred's list of cities in order of size, beginning with the smallest. Read your list.

2. Milwaukee has how many more people than Omaha?

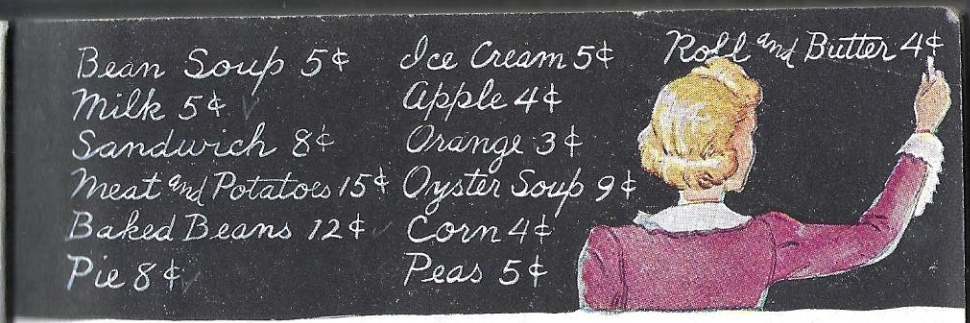
3. How many fewer people has Omaha than Detroit?

4. How many more people has Boston than Denver?

Each of the two groups of three figures in 587,472 is called a period. Placing a comma between 7 and 4 is called **pointing off** the number.

Copy and point off these numbers. Read them.

5.	30067	50607	90006	80540	65004
6.	605007	360004	280060	506040	770708



Buying Your Lunches

1. Miss White wrote some of the prices of foods on the blackboard and asked each of the pupils to plan a lunch. She said she would take meat and potatoes, milk, and ice cream. She wrote the prices and added them. Then she asked the boys and girls to do the same.

$.15
.05
.05
$.25

2. Charlotte said she wanted some baked beans, milk, and pie. What would her lunch cost?

3. Jane wanted oyster soup, corn, and an apple. How much would she pay?

4. What would Frank pay for a sandwich, milk, peas, and pie?

5. Dick chose bean soup, meat and potatoes, and an orange. What would he pay?

Find the cost of the following lunches:

6. Oyster soup, roll and butter, milk, and pie.

7. Sandwich, corn, ice cream.

8. Baked beans, roll and butter, and an apple.

9. Use the prices of foods in planning other lunches you would like. Find the cost.

Addition and Subtraction

Add downward and check your answers by adding upward.

1.

2	4	3	8	3	6	3	2	3
5	2	7	1	8	2	5	5	6
2	7	3	7	9	4	6	3	9
4	8	4	4	4	3	7	6	1
13	14	17	20	24	15	21	16	19

2.

8	3	4	2	4	5	3	6	3
1	2	3	7	4	4	7	1	3
6	7	8	7	7	7	6	9	5
4	2	3	1	4	3	5	3	8
19	14	18	17	19	19	21	19	19

3.

21	32	14	34	21	40	54	36
34	46	53	20	44	75	32	64
53	13	31	43	53	26	76	25
76	54	67	89	48	69	38	17
184	145	165	186	186	210	200	142

4.

15	22	34	46	53	38	47	96
34	48	25	82	97	68	23	13
52	73	81	35	23	25	91	64
29	37	48	71	52	32	70	28
130	180	188	234	225			

5.

$12.24	$54.30	$80.16	$25.37	$1.76
3.65	6.55	15.07	13.95	.68
10.43	9.32	3.19	7.24	2.60
	$70.17			

Subtract, and prove your answers.

6.

$26.38	$52.60	$60.10	$83.75	$2.15
14.73	45.35	9.72	50.84	.98

7.

719	925	870	935	913	980	707
534	190	463	306	597	378	641

Unit 4. Adding and Subtracting

Adding a Column of Numbers

Add downward. Check by adding upward.

1.

9	8	5	9	4	9	4	8	4
7	6	9	2	1	7	4	3	5
8	7	5	7	9	9	4	7	8

2.

6	8	2	6	9	5	7	5	3
3	9	6	9	7	9	1	6	9
7	6	5	1	4	8	8	4	4
9	5	7	8	5	4	8	9	7

3.

8	3	9	5	9	5	6	8	3
9	4	6	9	5	7	6	4	6
5	9	9	1	6	8	5	9	6
8	7	3	8	6	7	2	8	4

Problems

1. In the fourth grade there are 74 pupils. Of these, 35 are boys. How many girls are there?

2. Fred sold 8 magazines on Monday, 9 on Tuesday, 6 on Wednesday, and 5 on Thursday. How many magazines did he sell in these four days?

3. Frank weighs 57 pounds and wants to gain 4 pounds. How much does he want to weigh?

4. Ellen weighs 63 pounds, and Alice weighs 55 pounds. What is the difference in their weights?

5. How much more does Ellen weigh than Frank?

Practice in Subtraction

Subtract. Prove each remainder.

1.	\$14.50 5.90	\$15.36 5.80	\$13.10 7.73	\$12.65 7.76	\$19.16 4.65
2.	\$20.00 6.80	\$12.75 7.78	\$28.64 8.68	\$55.46 15.69	\$18.03 8.20
3.	\$92.35 14.38	\$20.03 1.49	\$64.16 5.62	\$33.75 25.79	\$25.00 1.56
4.	\$43.48 8.39	\$92.39 32.92	\$21.49 7.60	\$65.33 40.35	\$54.00 48.36

Problems

1. Ray's father bought a railroad ticket for \$14.98. How much change did he get from \$20.00?

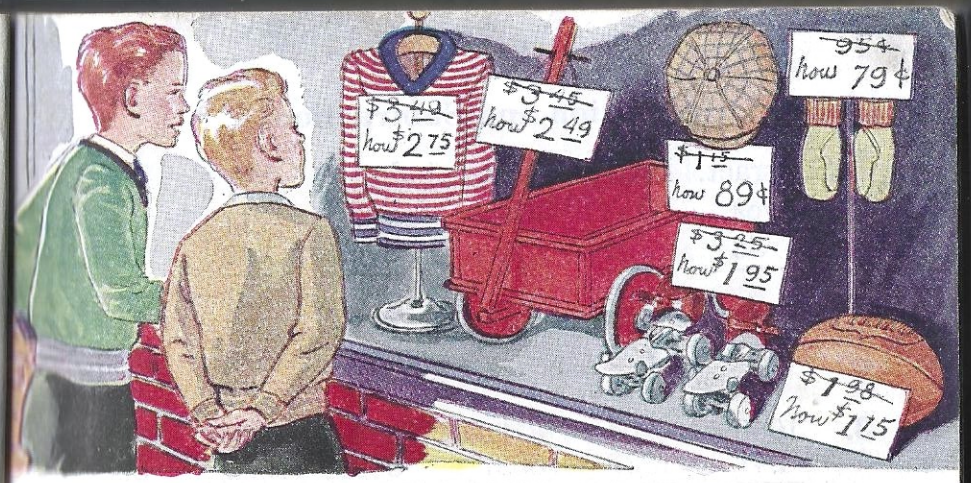
2. Ruth paid \$1.29 for a fountain pen, \$.14 for paper, \$.96 for a reader, and \$.15 for a notebook. How much did she spend?

3. Fred found a bicycle that sells for \$32.50 and another that sells for \$27.98. What is the difference in price?

4. Jane's father spent \$14.75 for a tire, \$1.89 for gasoline, \$.78 for oil, and \$1.45 for repairs on his car. How much did he spend?

5. In problem 4, how much more did Jane's father spend for a tire than he did for gasoline?

6. Ben has saved 35¢ to buy a 50-cent ball. How much more does he need to save?



Sale at the Sporting Goods Store

As Ben and Jack were walking to town one Saturday, they looked into the window of the sporting goods store and saw that the prices had been reduced for the fall sale.

1. What was the price of the boy's sweater? What is the price now? How much was the price reduced?

$$\begin{array}{r} \$3.49 \\ -2.75 \\ \hline \end{array}$$

2. How much was the price of the wagon reduced?

3. How much cheaper is the football now?

4. What can Ben save by buying roller skates?

5. How much have the mittens been reduced?

6. How much more was the old price of the cap?

7. The price of a toy electric train was \$3.50, but it was reduced \$1.75. What is the price now?

8. How much more does the wagon cost than the football?

9. What is the cost of the skates and the wagon?

Addition and Subtraction

Subtract. Prove each remainder.

1.	794	435	873	967	711	162
	38	394	268	694	449	97
2.	826	725	653	731	604	964
	377	529	157	298	579	486
3.	1040	6204	8120	7304	4902	6001
	241	1287	6637	869	1576	829

Answer the following:

4. What is the sum of $5+8+4+12$?

5. Find the difference between 79 and 246.

6. Add 34, 376, 1028, and 673.

7. $893-368=$__ $147+2973=$__ $7006-98=$__.

8. The minuend is 2058 and the subtrahend is 783. Find the remainder.

9. What is the sum of \$7.35, \$6.97, and \$84.67?

10. \$12.75 is how much more than \$9.80?

11. Subtract \$456.65 from \$3048.76.

12. \$24.86 is how much more than \$14?

13. \$37.50 is how much less than \$124.25?

14. What is the difference between \$18.25 and \$14.85?

15. Subtract 1835 from 1941.

16. What is the sum of \$10.98, \$14.27, and \$19.76?

Making Your Own Problems

Would you like to make your own problems? Here are some good problems which Miss White's pupils made. Read each problem and write the answer.

1. Fred said, "I earned 15¢ and spent 9¢ for a top. How many cents did I have left?"

2. Jane said, "I worked 12 problems and had 9 answers right. How many answers were wrong?"

3. Jack said, "After I sold 8 papers, I had 7 left. How many papers did I have at first?"

4. Frank said, "In 5 years I shall be 14 years old. How old am I now?"

5. Ellen said, "I sold 8 of my chickens and kept 6. How many chickens did I have at first?"

6. Alice said, "My height is 49 inches. My brother is 6 inches taller. How tall is he?"

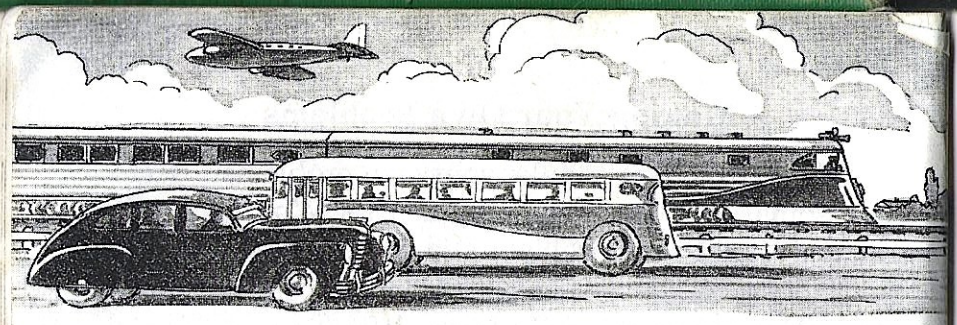
7. Dick said, "I weigh 62 pounds, and my sister weighs 5 pounds less. What does she weigh?"

8. Ben worked 7 hours last week and 5 hours this week. How many hours did he work both weeks?

9. Ruth said, "I have 50¢. I want to buy a 75-cent doll. How much more do I need?"

10. Frank said, "I am 49 inches tall. My brother is 54 inches tall. How much taller is he?"

11. Write some good problems telling of something you have seen or done. Ask the class to tell whether you should add or subtract.



How Travel Has Changed

How long ago did the following happen?

1. Robert Fulton ran his first steamboat in 1807 to Albany.

2. The Cumberland Road was begun in 1808.

3. Fulton's steamboat went up the Ohio in 1811.

4. The first steamboat trip from New Orleans to Louisville was made in 1817.

5. The first railroad using steam engines in the United States was built in 1830.

6. In 1839 the first express company was formed to deliver packages between Boston and New York.

7. In 1860 the Pony Express first carried mail to California.

8. In 1869 the first steam railroad to California was completed.

9. The first electric railroad was built in 1884.

10. The Wright brothers flew the first airplane in 1903.

11. The first airplane crossed the Atlantic Ocean in 1919.

12. Byrd flew over the North Pole in 1926.

First Self-Test

Test Your Work in Addition

Add. Practice to get sums correct. Take time for accurate work.

1.	2	8	3	9	8	3	6	4	8
	8	2	7	3	7	8	7	9	5
	6	7	2	4	9	4	7	8	5
	7	6	9	4	6	8	4	2	3
2.	9	7	3	5	6	8	2	6	3
	8	9	2	8	8	6	3	5	6
	3	2	7	9	2	4	7	7	7
	3	8	6	7	9	6	8	9	3
3.	8	4	6	9	5	4	5	4	8
	6	9	3	7	6	4	6	8	9
	7	4	5	3	4	7	5	3	9
	6	8	9	2	4	3	9	3	4
4.	6	9	8	6	9	4	9	3	9
	2	5	3	5	3	3	3	4	6
	8	2	7	3	2	9	3	2	7
	9	5	4	6	3	8	5	4	2

Mixed Test

Find the answers.

1.	28	46	99	76	83	79	58	98
	99	97	98	93	43	86	88	67
	98	78	47	98	48	69	78	36
	88	69	54	77	93	97	93	73

2. 704 − 395 891 − 498 611 − 478 934 − 526

Test Your Work in Subtraction

Subtract. Prove your answers. Practice until you have all answers right.

1.	851	715	556	432	857	674
	371	141	189	192	762	359
2.	635	792	968	944	703	747
	478	465	775	848	490	269
3.	670	909	837	614	819	330
	388	446	580	236	161	187
4.	928	492	373	589	831	991
	333	219	205	393	645	287

Problem Test

1. Jane is reading a book of 91 pages. After reading 34 pages, how many has she still to read?

2. Charlotte paid $.85 for a book and $.17 for paper. How much did she spend?

3. I have worked 36 examples and find 9 of my answers are wrong. How many are right?

4. Ray paid 59¢ for a ball and then had $1.41 left. How much money had he at first?

5. Ruth saved $2.00. Then she spent all but 25¢ of it for a doll. How much did she pay for the doll?

6. There are 784 children in our school, of whom 397 are girls. How many boys are there?

Unit 5. Practice in Column Addition

A Page for Practice

Add and check:

1.	46	75	26	65	85	93	59	76
	28	87	19	98	73	78	30	72
	32	68	98	46	33	96	35	23
2.	57	68	59	58	37	48	34	28
	87	86	37	95	94	79	69	95
	36	78	86	49	71	83	26	88
3.	62	99	69	77	39	87	98	99
	98	58	74	78	75	38	98	15
	47	46	87	96	99	60	38	73
	67	84	93	47	56	87	46	52

4.	$52.25	$12.50	$82.94	$30.50	$76.25
	9.87	6.75	4.75	50.00	8.14
	17.32	3.90	19.15	6.98	.76
5.	$ 4.98	$85.08	$ 4.38	$45.00	$49.85
	21.65	61.04	19.76	6.85	.68
	.08	9.35	1.35	.98	9.54
6.	$32.81	$25.00	$ 9.57	$ .09	$24.25
	9.65	7.85	.16	1.14	6.18
	4.86	9.50	27.82	12.68	4.35
	27.54	38.55	8.75	24.18	9.46

7. $76+84+95+7$ $49+68+57+9$

Should You Add or Subtract?

For each problem decide whether you should add or subtract. Write on your paper A for add or S for subtract. Then work the problems.

1. Fred bought a reader for 96¢ and a geography for $1.25. What was the cost?

2. Helen had saved $2.45 and spent $1.68 of it for a dress. How much did she have left?

3. Jack wants to buy a pair of roller skates that costs $3.75. He has saved $2.10. How much more money does he need?

4. Frank can have a pair of roller skates by getting 500 savings stamps. He has saved 262 of these stamps. How many does he still need?

5. Ben's father drove his auto 317 miles on Friday and 387 miles on Saturday. How far did his father drive in the two days?

6. If I buy groceries that cost $2.47, how much change should I get from a 5-dollar bill?

7. Ray has $3.93 in his bank. He needs $6.75 for a set of tools. How much more money must he save for the tools?

8. Ruth read one book of 196 pages and another book of 256 pages. How many pages did she read?

9. Frank has saved $6.45. After paying $2.98 for a sweater, how much does he have left?

10. There are 61 books on 2 shelves, with 48 on the upper shelf. How many are on the lower shelf?

Practice for Correct Addition

Add and check:

1.	78	46	73	50	48	39	85	76
	65	38	28	89	90	86	98	63
	87	79	90	87	69	97	46	35
2.	47	88	55	59	67	76	93	24
	91	96	19	30	85	56	48	52
	62	40	64	63	49	29	87	87
3.	24	59	50	48	78	66	39	48
	49	67	89	75	77	78	79	88
	97	99	64	65	86	35	86	94
	66	48	12	79	37	58	96	35

4.	$2.50	$ .48	$1.09	$9.65	$6.24
	.85	.05	4.47	3.63	.87
	3.98	.91	8.28	.25	9.73
	.68	9.78	.87	7.64	6.47

Problems

1. Alice wants a dress that costs $9.75. She has $6.87. How much more money does she need?

2. A boy sold 79 papers on Monday, 85 papers on Tuesday, and 81 papers on Wednesday. How many papers did he sell in the 3 days?

3. Dick gave the clerk a $2.00 bill for a knife that cost 57¢. How much change should Dick get? How should you count out Dick's change?

4. Jane had 75¢, but when she came back from the store she had 15¢. How much did she spend?

Sight Problems

For each problem write on your paper A for add or S for subtract. Then write the answers.

1. In a test Charlotte spelled 18 words correctly and missed 2 words. How many words were there in the test?

2. Fred's father had 34 fat hogs. He sold 5 of them. How many did he keep?

3. It is 6 blocks to school and 11 blocks to the store. How much nearer is the school?

4. Ray had saved $5.80. After he had earned $1, how much money did he have?

5. Dick needed $3.25 to buy a sweater. He had $2. How much more money did he need?

6. Charlotte was born in 1931. In what year was she 3 years old?

7. Frank bought a pair of skates for $2.50. How much change should he get from a $5 bill?

8. Last fall Ray weighed 86 pounds. Now he is 9 pounds heavier. How much does he weigh?

9. Ben worked 12 problems and had 3 wrong answers. How many of his answers were right?

10. Jack had 11 answers right in his test and 2 answers wrong. How many problems were there?

11. Three boys brought back books to the library too late. They paid 6¢, 9¢, and 3¢ in fines. What was the total of their fines?

How Well Can You Add?

Add and check. Try to get first answers right.

1.	88	47	48	65	53	96	25	68
	90	59	13	90	50	95	49	92
	84	37	75	23	14	80	13	33
	75	42	88	49	65	67	68	39
2.	67	54	24	27	78	45	41	69
	82	38	27	99	49	20	50	68
	83	17	73	74	76	88	68	95
	57	29	66	48	34	31	75	27
3.	65	64	86	48	47	32	13	80
	97	93	62	97	51	93	57	42
	46	86	95	74	65	19	84	98
	58	43	38	75	86	52	30	36

Sight Problems

Write the answers.

1. How many dollars more does a $5 dress cost than a $2 dress?

2. What is the difference between 7 miles and 11 miles?

3. Ellen has 18¢. How many cents more does she need for a 25¢ ball?

4. Charlotte had $9 and saved $4 more. How many dollars did she have then?

5. How many dollars will it take to pay for a $3 hat and an $11 overcoat?

6. $2.00 is how much more than $1.50?

Should You Add or Subtract?

For each problem write on your paper A for add or S for subtract. Then work the problems.

1. Helen saved her money until she had $11.40 in her savings bank. She spent $5.84 for a coat. How much money did she have left?

2. Ida's mother bought some new furniture for her room. The bed cost $38.80, a chair cost $6.70, and the rug cost $17.25. How much did this furniture cost?

3. Dick is saving money to buy a bicycle for $29. He has saved $10.58. How much more does he need for the bicycle?

4. Ruth had 72 words in her test. She missed 5. How many words did she spell correctly?

5. Ray delivered 37 papers Monday, 42 papers Tuesday, and 48 papers Wednesday. How many did he deliver in the three days?

6. Dick's father bought an automobile tire for $13.20 and handed the clerk a $20 bill. How much money should he get in change?

Practice in Addition

Add and check:

469	748	769	265	659	493
976	637	771	559	984	889
143	979	348	764	347	327
845	225	244	856	796	978

Unit 6. Review of Easy Multiplication Facts

How to Solve Problems

In each problem, first think what is given and what you must find. Then decide whether to add, subtract, or multiply.

1. Ruth paid 4¢ for an apple and 6¢ for a large orange. What was the cost of both?

Given: the price of the apple 4¢
the price of the orange +6¢
To find: the cost of both 10¢

2. Ruth had 6¢. After paying 4¢ for an apple, how many cents did she have?

Given: the money Ruth had 6¢
the cost of the apple −4¢
To find: the amount Ruth had remaining 2¢

3. When apples sell at 4¢ each, what will 6 apples cost?

Given: the price of 1 apple 4¢
the number of apples bought ×6
To find: the cost of 6 apples 24¢

4. When sugar sells at 5¢ a pound, how much will 8 pounds cost?

5. Make a good problem for each example below. Then work your problems.

10	8	5	15	4	9	9	11	6
−5	+7	×4	−6	×7	+5	×4	−7	×3
5	15	20	9	28	14	36	4	18

Sight Problems

For each problem write on your paper A for add, S for subtract, or M for multiply. Then write the answers.

1. If Frank rides his bicycle at a speed of 9 miles an hour, how far will he ride in 2 hours?

2. Frank rode his bicycle 8 miles one day and 5 miles the next day. How far did he ride in the two days?

3. How many peach trees will it take to plant 5 rows with 8 trees in each row?

4. There were 15 books on a desk. Seven have been taken off. How many are left?

5. At 9¢ each, what is the cost of 3 tablets?

6. If you sell Fred some marbles for 15¢ and he pays you with a quarter, how much change should you give him?

7. If you saved 15¢ to buy a 40-cent book, how much more money should you need?

8. When the price of apples is 3¢ each, how much money do you need to buy 7 apples?

Practice in Subtraction

1.	807 − 74 = 733	605 − 68 = 537	456 − 349	740 − 258	900 − 609	801 − 598
2.	604 − 307	709 − 504	511 − 289	631 − 542	844 − 488	962 − 185

Writing Answers

Multiply. Write the products on folded paper.

1.	8 × 2 = 16	4 × 4 = 16	9 × 1 = 9	2 × 3 = 6	4 × 8 = 32	1 × 3 = 3	9 × 2 = 18	0 × 4 = 0	6 × 5 = 30
2.	8 × 3 = 24	0 × 5 = 0	7 × 4 = 28	3 × 6 = 18	9 × 5 = 45	2 × 4 = 8	5 × 5 = 10	8 × 1 = 9	2 × 9 = 18
3.	4 × 1 = 4	9 × 3 = 27	5 × 1 = 5	3 × 7 = 21	5 × 7 = 35	0 × 7 = 0	8 × 4 = 32	3 × 3 = 9	2 × 5 = 10
4.	1 × 8 = 8	3 × 5 = 15	0 × 9 = 0	2 × 7 = 14	8 × 5 = 40	4 × 3 = 12	1 × 7 = 7	4 × 9 = 36	2 × 6 = 12
5.	6 × 1 = 6	5 × 9 = 45	6 × 3 = 18	1 × 4 = 4	5 × 6 = 30	2 × 8 = 16	5 × 4 = 20	0 × 3 = 3	7 × 5 = 35
6.	7 × 2 = 14	0 × 6 = 0	3 × 8 = 24	4 × 7 = 28	3 × 2 = 6	1 × 6 = 6	3 × 9 = 27	4 × 6 = 24	4 × 5 = 20
7.	5 × 2 = 10	9 × 4 = 36	7 × 3 = 21	6 × 2 = 12	1 × 5 = 5	5 × 8 = 40	6 × 4 = 24	4 × 2 = 8	5 × 3 = 15

Do the examples below. Watch the signs.

8.	11 − 8 = 3	6 × 5 = 30	7 + 4 = 11	4 × 6 = 24	10 − 7 = 3	8 + 8 = 16	9 × 3 = 27	16 − 7 = 9	8 × 4 = 32
9.	9 × 5 = 45	14 − 8 = 6	2 × 9 = 18	9 + 5 = 14	12 − 7 = 5	6 × 4 = 24	7 + 8 = 15	4 × 9 = 36	15 − 6 = 9
10.	7 + 6 = 13	3 × 8 = 24	13 − 7 = 6	7 × 3 = 21	18 − 9 = 9	6 × 3 = 18	17 − 8 = 9	4 × 7 = 28	9 + 3 = 12

Should You Add, Subtract, or Multiply?

For each problem write on your paper A for add, S for subtract, or M for multiply. Then work the problems.

1. Ray earned 40¢ on Friday and 60¢ on Saturday. How much did he earn in the two days?

2. Yesterday we had 13 gallons of gasoline. Now we have only 4 gallons. How many have we used?

3. In getting their home ready for Halloween, Jack and Ellen decided to put 3 paper pumpkins in each of the 7 windows. How many did they need?

4. At 5¢ each, how much will 7 oranges cost?

5. Dick had 35 papers to sell. Now he has 6 of them left. How many papers has he sold?

6. How many desks are there in a schoolroom with 5 rows of desks and 8 desks in each row?

7. If a man walks 3 miles an hour, how far will he walk in 7 hours?

8. Dick saved 60¢ last month and 76¢ this month. How much more did he save this month?

9. At 9¢ a quart, what do 3 quarts of milk cost?

10. Ray is in school 6 hours a day. How many hours will he be at school in 5 days?

11. I want to buy a pair of compasses that costs 45¢. I have 18¢. How much more do I need?

12. Make a problem using addition, another using subtraction, and two using multiplication.

Multiplying Larger Numbers

1. The length of Fred's kite string is 56 yards. How many feet long is his string?

To change yards to feet, multiply by 3. Think 56×3.

56
3
168

Ones: Think 3×6. Write 8. Carry 1.

Tens: Think $3 \times 5 + 1$. Write 16.

Fred's kite string is 168 feet long.

Multiply. Check answers by multiplying again.

2.	67	38	18	35	81	99	76	26
	2	3	4	5	3	4	5	3
3.	82	75	59	84	98	29	38	60
	5	4	2	3	2	3	5	4
4.	99	79	94	39	84	66	72	88
	5	3	5	4	2	4	4	3
5.	73	36	67	79	65	29	25	77
	4	3	5	4	3	5	4	4

Problems

1. How many days are there in 52 weeks? 364

2. Jack is 9 years old today. How many months old is he? 108

3. A farmer sold 37 gallons of milk. How many quart bottles would this fill? 148

4. At a speed of 48 miles an hour, how far will Ben's father drive in 3 hours? 144

Problems from an Airplane Trip

Ben lives in the state of New York. One day his father wanted to get to Chicago quickly, and so he drove to New York City to catch the first airplane.

1. Before his father started, his car had gone 4012 mi. When he returned, it had gone 4282 mi. How far did he travel by auto?

2. Father left home at 2 P.M. and arrived in Chicago at 9 P.M., New York time. How long was he on the way?

3. On the trip he rode 270 mi. by auto and 1496 mi. by airplane. Find the total distance traveled.

4. He spent $2.85 for gasoline, $80.90 for airplane fare, and $6.75 for hotel room and meals. What was the total expense for the trip?

5. Father drove his car at a speed of 45 mi. per hour. How far could he travel in 6 hours?

6. At a speed of 187 mi. per hour, how far could the airplane fly in 4 hours?

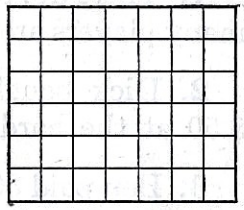
7. Nine men took the airplane at New York City. Each fare was $45. Find the total fares.

8. Write and work another airplane problem.

Multiplication Facts for 6

1. In the drawing at the right, find 6 rows of squares with 7 squares in each row. $6 \times 7 = \_\_$

Then find 7 columns of squares with 6 squares in each column. $7 \times 6 = \_\_$



6×7 or 7×6

2. Draw rows of small squares on your paper to show the products on the right.

6	8	6	9	6
6	6	8	6	9
36	48	48	54	54

3. Count by 6's to 54; by 7's to 42; by 8's to 48; by 9's to 54.

Multiply the numbers below. Write the products on folded paper.

4.	6	3	6	5	4	6	5	6	9
	6	7	9	4	7	8	3	4	5
5.	9	5	4	6	4	6	5	7	9
	6	7	8	7	6	5	8	6	3
6.	7	8	5	8	9	7	6	6	3
	6	6	7	4	6	3	6	7	8
7.	6	7	8	6	8	7	5	4	8
	9	4	6	5	6	5	9	9	5

Should You Add, Subtract, or Multiply?

For each problem decide whether you should add, subtract, or multiply, and write A, S, or M on your paper. Then work the problems.

1. There are 5 players on a basketball team. How many players are needed for 7 teams?

2. Dick bought paint for $1.10 and a brush for $.50 at the hardware store. Find the cost of both.

3. Ben paid 30¢ for some beets and then sold them for 50¢. How much did he make on the sale?

4. How many school days (5 days a week) are there in 8 weeks?

5. How many working days (6 days a week) are there in 8 weeks?

6. In one month of 30 days you had school 20 days. How many days did you not have school?

7. How many days are there in 6 weeks?

NOVEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

8. From a flock of 57 geese, a farmer sold 35 geese. How many geese did he have left in the flock after the sale?

9. School is 13 blocks from our house, and the store is 7 blocks away. School is how much farther away than the store?

10. How many desks will you need to make 6 rows with 9 desks in each row?

Multiplication Facts for 7

1. Draw rows of small squares to show the multiplication facts at the right.

7	8	7	9	7
7	7	8	7	9
49	56	56	63	63

2. Count by 7's and by 9's to 63; by 8's to 56.

Write the products for the following:

3.	7	7	7	7	7	7	7	7	7
	6	2	9	3	7	5	1	8	4
4.	8	8	8	8	8	8	8	8	8
	4	1	6	2	7	3	0	7	5
5.	9	9	9	9	9	9	9	9	9
	0	6	4	3	7	5	2	1	7
6.	4	6	2	9	8	7	8	4	5
	7	6	9	7	6	3	7	6	9
7.	3	7	9	5	7	9	4	9	5
	7	8	4	8	7	3	8	6	5
8.	5	6	7	5	9	7	9	3	6
	7	4	9	6	4	8	3	8	7
9.	8	7	5	6	4	5	3	7	4
	5	7	3	7	8	9	6	9	3
10.	2	6	7	6	7	9	8	6	8
	6	8	4	9	5	7	3	5	7

11. 7×8 9×7 8×7 7×9 7×7

Multiplication Practice

Multiply. Check answers by multiplying again.

1.	36	64	92	35	19	71	46	92
	4	6	5	8	7	9	5	3
2.	37	56	83	38	92	89	66	26
	7	3	6	3	4	7	6	7
3.	85	26	24	81	91	74	14	28
	4	9	8	5	6	9	4	6
4.	47	35	76	57	84	70	35	80
	3	5	8	6	7	4	9	5

Problems

1. How many cherry trees will be needed to plant 8 rows with 36 trees in each row?

2. How many apples will it take to pack 7 boxes with 96 apples in each box?

3. If a quart of milk fills 4 glasses, how many glasses can be filled from 75 quarts of milk?

4. Fred's kite string is 86 yards long. How many feet long is his kite string?

5. At 19¢ per gallon, what is the cost of 6 gallons of gasoline?

6. At 27¢ per pound, what will 6 pounds of cheese cost?

7. A leap year has 13 weeks from January 1 to April 1. How many days are there in these weeks?

Multiplication Facts for 8 and 9

1. Draw rows of small squares to show the multiplication facts at the right.

8	9	8	9
8	8	9	9
64	72	72	81

2. Count by 8's to 72; by 9's to 81.

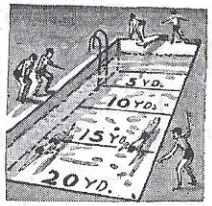
Think the products quickly for each line below. Then write them on folded paper.

3.	7	5	9	5	8	6	8	6	5
	7	4	9	3	7	3	8	4	8
4.	5	6	3	4	7	5	6	8	3
	5	8	4	8	2	7	2	9	7
5.	9	7	6	4	9	8	7	3	9
	3	5	7	9	8	3	4	6	7
6.	8	9	4	7	6	7	9	4	6
	2	6	5	9	5	3	9	4	6
7.	7	4	9	8	6	7	3	7	8
	6	3	4	9	4	8	9	5	8
8.	5	8	3	4	8	2	9	9	6
	2	4	8	7	6	9	8	2	9
9.	8	4	5	4	9	5	2	5	6
	5	6	7	8	5	6	7	8	9

10.	8×8	9×8	7×9	6×8	9×7
11.	8×9	8×6	9×9	7×6	7×8
12.	8×7	7×7	6×7	9×6	6×9

Should You Add, Subtract, or Multiply?

For each problem write on your paper A for add, S for subtract, or M for multiply. Then work the problems.



1. A swimming pool is 20 yd. long. How many feet long is it?

2. A farmer had 87 head of cattle, and in the spring he bought 75 more. How many did he have then?

3. The Willis family is saving money to buy a radio. If they save $8 a week, how much money will they have in 7 weeks?

4. In a box there were 144 pencils, and now there are only 36. How many of the pencils have been used?

5. Charlotte is 10 years old, and her mother is 39 years old. How old was her mother when Charlotte was born?

6. Charlotte's father bought an auto for $875.64. He paid $425 when he took the car. How much money did he still owe on the car?

7. Dick paid a library fine of 8¢. Ben paid 10¢, and Frank paid 7¢. How much did the three boys pay?

8. In Ray's schoolroom there are 6 rows of desks with 8 desks in a row. How many desks are there in the room?

9. Helen bought a dress for $4.98 and handed the clerk $10. How much change did she receive?

Unit 8. Practice in Multiplication

Help in Carrying

The practice below will help you to carry a number in multiplication.

1. Multiply. Add 1 to each product.

4	5	2	1	7	3	9	6	8
2	2	2	2	2	2	2	2	2

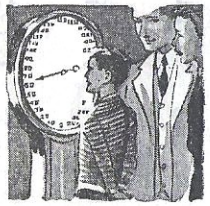
2. Multiply. Add 2 to each product.

5	2	9	3	1	6	4	7	8
3	3	3	3	3	3	3	3	3

3. Multiply. Add 2 to each product. Next add 3.

2	9	1	4	7	6	8	3	5
4	4	4	4	4	4	4	4	4

Problems



1. Dick weighs 62 lb., his father weighs 178 lb., and his mother 129 lb. Find the weight of all three of them.

2. How many cabbages will be needed to set 9 rows with 76 plants in each row?

3. Jack and his father are taking an auto trip of 931 miles. After driving 578 miles, how far do they still have to go?

4. Washington was born in 1732. How many years ago was that?

Should You Add, Subtract, or Multiply?

Work the problems and write the answers.

1. Fred bought a baseball for 29 cents. What was his change from a half dollar?

2. When eggs sell at 29¢ a dozen, how much money will you need to buy 6 dozen eggs?

3. It is 67 miles from Mayville to Morgan and 158 miles from Morgan to Chester. How far is it from Mayville through Morgan to Chester?

4. When streetcar tickets sell at 7¢ each, how much will 24 tickets cost?

5. How many eggs are there in 6 dozen eggs?

6. Fred paid 7¢ for a ham sandwich, 5¢ for soup, and 4¢ for ice cream. Find the cost of his lunch.

Practice in Multiplication

Multiply. Try to get all answers right.

1.	67	46	34	25	86	79	29	35
	3	7	4	8	2	5	9	6
2.	87	34	49	34	46	12	80	56
	7	9	3	8	5	9	5	9
3.	64	89	77	65	56	67	64	99
	9	4	8	5	9	6	9	6
4.	32	75	88	66	42	35	67	76
	7	8	4	8	6	8	4	9
5.	92	44	56	14	67	88	68	65
	4	9	3	8	6	7	6	9

Easy Multiplication

1. Write by 2's to 18 and by 3's to 27.

2. Write by 4's to 36 and by 5's to 45.

3. Write by 6's to 54 and by 7's to 63.

4. Write by 8's to 72 and by 9's to 81.

Give the products in each line below. Make a list of the products that give you trouble.

5.	3	7	8	3	2	5	9	2	6
	2	6	2	3	4	6	3	9	6
6.	5	2	4	8	6	9	3	5	2
	7	6	3	8	2	9	7	3	7
7.	7	5	7	2	4	5	7	3	4
	8	4	5	2	9	5	3	6	8
8.	9	3	4	6	2	8	5	7	3
	6	5	6	8	3	7	9	4	9
9.	6	3	9	8	6	2	7	5	8
	5	8	7	9	4	8	7	9	4
10.	2	6	4	7	9	6	9	4	2
	5	9	5	7	2	3	4	7	3
11.	4	8	5	2	9	3	6	9	4
	4	3	2	3	5	4	7	8	2

12. Multiply each number in line A by each number in line B. Use folded paper.

A	2	8	1	9	4	7	5	3	6
B	5	9	4	8	3	1	6	2	7

Should You Add, Subtract, or Multiply?

Work the problems and write the answers.

1. Charlotte's mother bought 3 dozen oranges at 36¢ a dozen. How much did they cost?

2. Jack had 9 tomato plants. He picked 7 pounds of tomatoes from each plant. How many pounds of tomatoes did he get?

3. Each of 17 boys brought 4 toys to school for the first-grade children to play with at a party. How many toys did they bring?

4. Helen's cousin lives in a town that has three grade schools. One school has 258 pupils, another has 278, and the third has 316. How many pupils are there in the three schools?

Practice in Multiplication

Multiply. Check answers by multiplying again.

1.	59	64	58	58	37	85	67	69
	9	8	9	8	5	6	8	5
2.	65	69	46	68	77	58	58	27
	7	8	9	8	9	6	4	6
3.	67	59	89	79	63	67	47	97
	7	8	7	6	4	7	4	3
4.	59	83	69	78	88	47	86	85
	7	8	6	9	8	6	3	4
5.	65	76	48	88	66	84	65	26
	9	7	5	6	4	7	3	5

Practice for Carrying

1. Multiply. Add each of the numbers 2, 3, and 4 to every product. For $5 \times 3 + 2$, write 17.

3	6	9	5	2	7	1	8	4
5	5	5	5	5	5	5	5	5

2. Multiply. Add each of the numbers 3, 4, and 5 to every product. Write the answers.

5	2	8	4	6	9	3	1	7
6	6	6	6	6	6	6	6	6

3. Multiply. Add each of the numbers 3, 4, 5, and 6 to every product. Write the answers.

4	7	5	8	3	1	9	2	8
7	7	7	7	7	7	7	7	7

4. Practice writing 6's to 54 and 7's to 63.

5. Practice writing 8's to 72 and 9's to 81.

Problems to Solve

1. Ray has a pony that eats 6 quarts of oats a day. How many quarts will the pony eat in 39 days?

2. In an orchard there are 8 rows of peach trees with 26 trees in a row. How many trees are there?

3. Ben took an auto trip of 1925 miles with his father. After driving 978 miles, how many miles did they still have to go?

4. If the multiplicand is 84 and the multiplier is 8, what is the product? If the multiplicand is 45 and the multiplier 9, what is the product?

Multiplying Dollars and Cents

1. At 37¢ a dozen, what is the cost of 6 dozen eggs?

Write 37¢ as \$.37 and multiply 37 by 6. Place the decimal point in the product exactly below the decimal point in \$.37 and put \$ before 2.22.

\$ .37 ×6 \$2.22

2. A farmer sold 9 sacks of potatoes at \$1.25 a sack. How much did he receive for the potatoes?

\$1.25 ×9 \$11.25

Multiply the following. To check your products, multiply again. Practice until you can get every answer right.

3.	\$.65 9	\$4.15 6	\$4.09 5	\$3.91 7	\$2.46 8
4.	\$.84 4	\$5.12 3	\$3.87 9	\$6.29 6	\$5.17 5
5.	\$.76 3	\$3.67 8	\$2.64 7	\$6.79 4	\$2.87 6
6.	\$.38 6	\$2.89 8	\$2.19 9	\$9.45 3	\$4.27 9
7.	\$1.85 8	\$1.53 7	\$1.88 9	\$3.26 6	\$4.86 5
8.	\$2.04 6	\$4.40 7	\$5.31 8	\$7.25 4	\$.94 8

Second Self-Test

Test Your Problem Solving

For each problem write on your paper A for add, S for subtract, or M for multiply. Find the answers.

1. At a speed of 45 miles per hour, how far will an automobile travel in 7 hours?

2. Fred has \$4.75 and wants to buy a sled costing \$8.50. How much more money does he need?

3. Jack has saved \$4.15 for next summer, Frank has saved \$5.35, and Ben has saved \$4.30. How much have the three saved?

4. At 87¢ a yard, how much money does Ruth's mother need to buy 8 yards of dress goods?

5. At a speed of 67 miles an hour, how far will a fast train go in 6 hours?

Test Your Subtraction and Multiplication

Subtract. Prove the remainders.

1.	794 38	653 157	604 579	1040 241	7304 1576	6001 1287
2.	4060 2359	9394 5678	7002 6885	8120 6637	8064 2075	

Multiply the following. Check answers.

3.	67 3	34 8	64 9	76 7	65 6	80 5	32 7	91 4
4.	\$.84 4	\$5.12 3	\$9.45 8	\$1.88 9	\$1.53 7			

Test Your Problem Solving

Work the problems.

1. The Davidson family has saved $2970 to buy a house. How much more do they need to buy a house that costs $4500?

2. The length of a walk is 75 yards. How many feet long is the walk?

3. There are 643 pupils in the high school. On a cold day 129 were absent. How many of the pupils were present?

4. Ida's mother paid 34¢ a pound for a 5-pound roast. What was the cost of the roast?

5. On a four-day auto trip last summer Helen's father drove 276 miles, 385 miles, 298 miles, and 417 miles. How far did he drive in all?

6. The airplane between Chicago and New York flew at the rate of 187 miles per hour for 4 hours. How far did it fly?

Test Your Addition

Add and check:

1.	$1.95	$7.08	$6.38	$3.48	$5.87
	6.53	4.70	7.99	9.95	8.25
	4.86	2.66	4.32	4.76	4.69
	3.49	2.16	4.84	6.55	7.64
2.	$7.46	$ .54	$7.07	$1.87	$6.73
	.75	8.99	3.89	4.18	4.69
	8.02	5.77	.95	7.00	3.58
	3.85	2.90	2.15	3.07	5.21

Unit 9. Multiplying Larger Numbers

Two-Figure Multipliers

1. In a large orchard there were 38 rows of cherry trees with 46 trees in each row. How many cherry trees were there in the orchard?

Multiply 46 by 38.

Ones: $8 \times 46 = 368$

Tens: $3 \times 46 = 138$

138 is written with 8 exactly below the 3 in the multiplier.

46, multiplicand
38, multiplier
368, partial product
138 , partial product
1748, product

Add the partial products.

There were 1748 trees in the orchard.

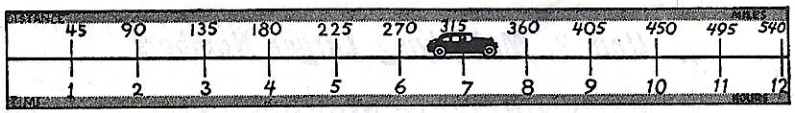
To check the work, we may write the multiplier over the multiplicand and multiply again. Write 38 over 46 and multiply. The product is 1748.

38
46
228
152
1748

Multiply. Check as shown above.

2.	53	78	89	48	63	74	25	59
	27	69	83	39	65	35	38	26
3.	68	72	69	76	38	89	45	59
	25	76	59	98	49	72	89	64
4.	65	47	86	57	84	37	29	84
	54	84	76	39	56	53	49	17
5.	48	36	95	96	39	74	86	32
	46	26	75	37	48	27	48	19

Problem Practice



1. Mr. Allen drove his car at a speed of 45 miles per hour. How far did he drive in 12 hours?

Given: 45 miles, the speed.
12 hours, the time.

To find: ___ miles, the distance.
The distance is 540 miles.

$$\begin{array}{r} 45 \\ \times 12 \\ \hline 90 \\ 45 \\ \hline 540 \end{array}$$

Speed × time = distance

For each problem below, tell what is given and what you are to find. Then work the problems.

2. At an average speed of 14 miles an hour, how far will a lake boat go in 28 hours?

3. An airplane flew 23 hours at an average speed of 165 miles per hour. Find the distance traveled.

4. A fast train ran 66 miles per hour for 19 hours. How far did it travel?

5. At 8 miles per hour, how far will you ride on your bicycle in 3 hours?

6. If you can pick 6 boxes of berries in an hour, how many boxes can you pick in 7 hours?

7. Mr. Jones worked 36 hours a week. How many hours did he work in 48 weeks?

8. A grocer bought 15 boxes of oranges with 96 oranges in each box. How many oranges did he buy?

Practice in Multiplication

1. Multiply, and add 1 to each product. Example, think 12+1. Write the answers.

4	5	2	1	7	3	9	6	8
3	4	5	6	7	4	6	5	7

2. Multiply. Add 2 to each product. Use folded paper.

5	2	9	3	1	6	4	7	8
8	8	8	8	8	8	8	8	8

3. Multiply. Add 2 to each product. Then add 3 to each product. Use folded paper.

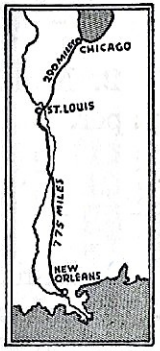
2	9	1	4	7	6	8	3	5
9	9	9	9	9	9	9	9	9

Multiply the following. To check, write the multiplier over the multiplicand and multiply again.

4.	48	38	57	91	76	62	74	31
	38	53	27	84	68	29	46	19
5.	95	84	98	57	92	75	97	45
	46	64	86	46	38	58	78	45
6.	75	83	75	97	86	71	57	81
	46	39	14	53	68	18	39	61
7.	79	38	62	79	57	71	99	68
	69	26	46	42	29	36	99	35
8.	89	92	75	65	83	48	86	73
	51	49	75	64	57	16	53	64

Should You Add, Subtract, or Multiply?

For each problem write on your paper A if you should add, S if you should subtract, or M if you should multiply. Then find the answers.



1. Mr. Ray drives his car 47 mi. an hour. How far will he drive in 6 hr.?

2. It is 775 mi. from New Orleans to St. Louis and 290 mi. from St. Louis to Chicago. How far is it from New Orleans to Chicago through St. Louis?

3. In Ray's room there are 7 rows of desks with 7 desks in each row. How many desks are there in the room?

4. There are 493 books in the school library. One day 198 books were in use. How many books were not in use on that day?

5. Find the cost of 3 books at 44¢ each.

6. How much money would you need to pay for a baseball costing $.75 and a glove costing $1.80?

7. Ben bought a ball for 69¢. How much change should he get from a $5 bill?

8. Tell how you would count Ben's change in problem 7.

9. Dick's father bought 65 acres of pasture land at $24 an acre. What is the value of the land?

10. Make problems using addition, subtraction, and multiplication. Exchange your problems with another pupil. Then work the problems.

Practice in Multiplication

Multiply. Check your work.

1.	53	93	79	48	58	96	49	98
	89	46	32	34	57	75	68	86
2.	26	47	78	37	79	55	62	79
	86	97	34	58	46	67	49	89
3.	59	87	68	97	96	75	86	94
	34	86	95	57	68	59	47	29

Problems

1. At 49¢ for one dozen, what is the cost of 8 dozen pencils?

2. I paid 12¢ for carfare and 16¢ for candy. How much did I spend?

3. How much money do I need to buy a cap for $1.49 and a pair of shoes for $3.98?

4. If Jack rides his bicycle 7 miles an hour, how far can he go in 3 hours?

5. At a speed of 52 miles an hour, how far will a steam engine travel in 17 hours?

6. In a test of 72 words, Ruth could not spell 7 words. How many words could she spell?

7. Jane's mother bought dress goods for $7.98 and dress trimming for $2.95. How much did her mother spend?

8. A farmer sold 16 dozen eggs at 36¢ a dozen. How much did he get for the eggs?

Can You Do Accurate Work?

Add and check:

1.	93	29	49	35	58	15	27	87
	80	65	48	89	96	77	64	49
	64	31	76	50	86	45	69	86
	89	97	79	49	79	87	56	34
2.	29	98	26	44	38	59	67	69
	30	69	95	98	59	87	75	98
	68	30	39	77	54	86	99	85
	54	49	17	69	90	46	56	27
3.	37	29	12	41	78	46	16	34
	19	48	68	30	64	27	74	84
	48	29	53	66	46	35	45	52
	38	57	34	65	75	23	47	36

Subtract the following:

4.	834	576	804	830	533	900
	276	440	169	258	289	879
5.	823	275	674	813	951	752
	787	198	648	655	493	649
6.	923	837	915	928	623	502
	504	368	369	236	227	293

Multiply the numbers below. Check each product.

7.	76	84	93	52	79	84	93	86
	37	96	38	26	68	54	69	78
8.	67	52	47	67	73	87	52	76
	25	48	39	48	25	48	19	69

Unit 10. Some More Uses for Numbers

Multiplying Dollars and Cents

1. Our class bought 26 books at 35¢ each. How much did they cost?

Write the numbers and multiply as shown at the right. Point off two places for cents. The cost was $9.10.

\$ .35
26
2 10
7 0
\$9.10

2. At $2.45 a yard what is the cost of 24 yards of carpet?

How do you place the decimal point in the product? Read the answer.

\$2.45
24
9 80
49 0
\$58.80

3. At $2.75 each, what do 4 pairs of skates cost?

4. How much money is needed to pay for 7 yards of carpet at 67¢ a yard?

5. A load of coal weighed 37 tons. At $6.25 a ton, what was the value of this coal?

6. How much are 30 gallons of milk at 45¢ each?

Multiply. Check by multiplying again.

7.	\$.45	\$4.75	\$3.35	\$2.71	\$4.20
	25	36	54	65	28
8.	\$.86	\$1.59	\$8.98	\$5.08	\$6.12
	37	64	46	75	83
9.	\$.58	\$6.69	\$4.78	\$9.34	\$5.50
	49	68	75	25	75

Using the Calendar

Use this calendar to help you get your answers.

1. Name the 12 months of the year in order.

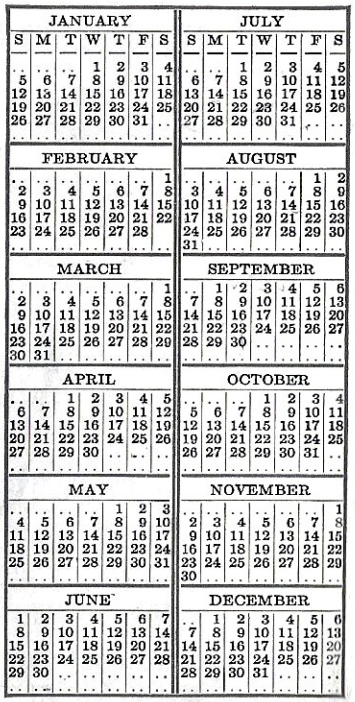
2. Which months have 30 days?

3. Which months have 31 days?

4. How many days are there in February?

5. In every fourth year February has 29 days. Such years are called leap years. Give the next three leap years after 1940.

6. How many days are there in 2 weeks? in 3 weeks? in 7 weeks? in 4 weeks? in 9 weeks? in 52 weeks?



JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

MAY

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

JUNE

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SEPTEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

OCTOBER

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

DECEMBER

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

7. There are 365 days in a common year. How many days over 52 weeks is this?

8. How many Saturdays are there in this January?

9. Which months have 3 days more than 4 weeks?

10. Which months have 2 days more than 4 weeks?

11. Which month has exactly 4 weeks?

12. Which of these months have 5 Sundays?

13. How many school days does this October have?

Practice for Correct Answers

Add. Check the sums.

1.	1	5	7	2	7	4	6	8	3
	4	8	3	6	8	8	4	5	8
	7	3	5	4	5	9	7	1	9
2.	8	2	6	3	7	8	5	3	6
	9	8	2	6	4	7	8	7	3
	7	9	6	3	9	6	6	8	3
	4	4	3	7	6	3	4	8	6
3.	93	86	59	25	89	71	45	86	
	78	59	36	13	44	91	98	33	
	45	78	59	41	27	47	76	97	
4.	63	96	57	89	35	46	24	71	
	79	56	46	97	98	52	73	88	

Subtract the following. Prove the remainders.

5.	711	590	975	856	714	816
	452	572	686	687	379	409
6.	627	862	505	860	682	837
	358	663	107	464	397	567

Multiply the following. Check the products.

7.	94	96	85	78	76	86	95	76
	79	84	79	65	48	49	74	73

Multiply the numbers below. Add each of the numbers 4, 5, 6, 7, and 8 to the products.

8.	9	6	0	8	3	7	4	5	2
	9	9	9	9	9	9	9	9	9

Should You Add, Subtract, or Multiply?

For each problem write on your paper A if you should add, S if you should subtract, or M if you should multiply. Then find the answers.

1. A school board bought 4 wall maps at $13.45 each. What was the cost of the maps?

2. Fred's father is 42 years old, his mother 37 years old. Find the difference in their ages.

3. May has 31 days, June 30 days, and July 31 days. How many days are there in the 3 months?

4. By May 1, our car had been driven 2478 mi. By November 1, it had been driven 8307 mi. How far was the car driven in these six months?

5. Find the cost of a table at $15.95, a chair at $8.48, and a rug at $26.79.

6. Fred's mother bought 6 dining-room chairs at $6.48 each. Find the cost of the chairs.

7. Ben saved $30 in one year. He spent $24.75 for a bicycle. How much money did he have then?

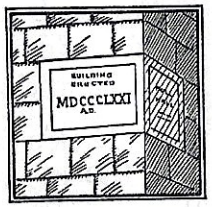
8. At a speed of 26 miles an hour, what distance will a ship travel in 24 hours?

9. With a salary of $37.50 a week, how much will a man earn in 52 weeks?

10. Frank has saved $17.85. How much more money does he need to buy a bicycle for $28.75?

11. Jack paid a fine of 3¢ a day for his library book. How much did he pay for 8 days?

Numbers Used by the Romans



You will sometimes find letters used to number the hours on clocks, chapters in books, books in sets, or dates on corner-stones. Such numbers are called **Roman numerals** and are written with seven letters:

I	V	X	L	C	D	M
1	5	10	50	100	500	1000

The table below will help you to read or write Roman numerals from 1 to 1999. When the first of two letters is of equal or greater value than the second, add them; when the first letter is less, subtract it from the second.

Ones:

I	II	III	IV	V	VI	VII	VIII	IX
1	2	3	4	5	6	7	8	9

Tens:

X	XX	XXX	XL	L	LX	LXX	LXXX	XC
10	20	30	40	50	60	70	80	90

Hundreds:

C	CC	CCC	CD	D	DC	DCC	DCCC	CM	M
100	200	300	400	500	600	700	800	900	1000

1. Write the Roman numerals from 1 to 10.

2. Write the Roman numerals from X to XX by placing X before each number from I to X.

3. Write the Roman numerals by tens to 100.

Should You Add, Subtract, or Multiply?

For each problem write on your paper A if you should add, S if you should subtract, or M if you should multiply. Then find the answers.

1. Dick's father drove his car 167 miles on Friday and 150 miles on Saturday. How far did he drive the car in the two days?

2. Alice's mother bought 7 yards of silk at $1.85 a yard. What did the silk cost?

3. The carpenter of the Lowell School works for $25 a week. How much does he earn in 8 weeks?

4. Ellen's mother bought 7 cans of tomatoes at 14¢ a can. What was the cost?

5. A suit marked at $29.85 was sold for $4.25 less than the marked price. For how much was it sold?

6. Forty-eight acres of land were sold at $96 an acre. What was the selling price of this land?

7. A hall had 42 rows of seats with 36 seats in each row. How many could it seat?

Practice in Multiplication

1.	49	96	79	94	72	92	82	38
	37	68	46	59	36	75	49	28
2.	82	75	83	28	97	67	94	86
	65	47	63	27	78	59	84	78
3.	58	96	45	98	76	69	75	62
	57	79	36	68	48	63	53	49

Unit 11. Uses for Measures

Measures of Time

Learn the table of time measures.

60 sec. = 1 min.	**52 wk. = 1 yr. (nearly)**
60 min. = 1 hr.	**12 mo. = 1 yr.**
24 hr. = 1 da.	**365 da. = 1 common yr.**
7 da. = 1 wk.	**366 da. = 1 leap yr.**

Change the following to smaller measures:

1. To months: 2 yr., 5 yr., 8 yr., 12 yr., 15 yr.

2. To days: 2 wk., 4 wk., 13 wk., 26 wk., 52 wk.

3. To hours: 2 da., 7 da., 10 da., 30 da., 48 da.

4. To minutes: 2 hr., 6 hr., 10 hr., 12 hr., 24 hr.

5. To seconds: 2 min., 5 min., 10 min., 15 min.

6. 1 hr. 15 min. to min. 1 yr. 6 mo. to mo.

7. 1 min. 30 sec. to sec. 1 yr. 9 mo. to mo.

8. 1 yr. 3 mo. to mo. 1 yr. 10 mo. to mo.

9. Give the dates of the following: New Year's Day, Columbus Day, Halloween, Easter, Lincoln's Birthday, St. Patrick's Day, Washington's Birthday, Valentine Day, Thanksgiving, and Christmas.

10. Give the names of the months which have 30 days; 31 days; less than 30 days.

11. How many weeks and days has January?

Tell What Is Given and What to Find

Work the problems.

1. At $65 per month, what will it cost to rent a house for 1 year?

2. When a man's wages are 75¢ an hour, how much will he earn in 36 hours?

3. When a carpenter's wage is $8.25 a day, how much will he earn in 26 days?

4. Fred's oldest brother receives a salary of $25 per week. How much does he earn in a year?

5. Ray bought a leather coat for $7.35. What was his change from $10?

6. Mr. Allen's salary is $225 per month. How much does he earn in a year?

7. Ben paid $12.75 for a suit, $11.25 for an overcoat, $1.98 for a cap, and $3.95 for a pair of shoes. Find the cost of all.

8. On a long trip last summer, Mr. Smith drove his car at an average speed of 46 miles per hour. How far did he drive in 9 hours?

9. At a speed of 145 miles per hour, how far will the airplane from New York to Kansas City fly in 8 hours?

10. At a speed of 43 mi. an hour, how far will a train from Chicago to San Francisco go in 24 hr.?

11. There are 500 sheets of paper in a package. How many sheets of paper are there in 9 packages?

Liquid Measure and Dry Measure

Learn the tables of liquid and dry measures.

LIQUID MEASURE

2 cups (c.) = 1 pint (pt.) **2 pints = 1 quart (qt.)**
4 quarts = 1 gallon (gal.)

DRY MEASURE

2 pints = 1 quart **8 quarts = 1 peck (pk.)**
4 pecks = 1 bushel (bu.)

1. Make a list of things that are sold by liquid measure, such as milk, paint, alcohol, and gasoline.

Fruits, vegetables, and grains are sometimes sold by dry measure and sometimes by weight. Grains are usually sold by the bushel, though the number of bushels is found by weighing.

2. Make a list of things which are usually sold by dry measure, such as potatoes and wheat. Dry-measure pints and quarts are a little larger than liquid-measure pints and quarts.

3. Name several kinds of berries, such as strawberries, which are sold in pint or quart boxes.

4. Your mother uses a measuring cup in cooking. Find out what things she measures by the cup or by the tablespoon and the teaspoon.

5. How many cups will a quart of milk fill?

6. How many pints will a gallon of milk make?

Using Measures in Canning Fruit

1. Charlotte Harvey and her mother are canning fruit. They have a bushel of pears. How many pecks of pears do they have?

2. To make the sirup used in cooking the pears, Mrs. Harvey used 3 quarts of sugar and 9 quarts of water. How many pints of each did she need?

3. After cooking the pears, they had 7 gallons of fruit to can. How many quart jars should Charlotte make ready for canning the fruit?

4. How many pint jars would 7 gallons fill?

5. At 25¢ a peck, what did 1 bu. of pears cost?

6. A pint of sugar weighs 1 lb. At 5¢ a pound, what was the cost of 6 pints of sugar?

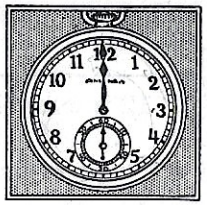
7. Mrs. Harvey bought 3 dozen quart jars. At $.95 a dozen, what was the cost?

8. Find the total cost of 1 bu. of pears, 6 lb. of sugar, and 3 doz. quart jars given above.

9. Change quarts to pints: 1 qt., 2 qt., 4 qt., 6 qt., 3 qt., 5 qt., 7 qt., 9 qt., 8 qt.

10. Change gallons to quarts: 1 gal., 5 gal., 7 gal., 3 gal., 6 gal., 4 gal., 8 gal., 9 gal.

Time Before and After Noon



Read, and tell what is missing in every sentence.

1. This watch has __ hands.

2. The second hand goes around once in __ minute, or __ seconds.

3. The minute hand goes around once in __ hour, or __ times in 12 hours.

4. The hour hand goes around once in __ hours, or twice in __ hours.

12:00 P. M. means midnight. 12:00 M. means noon.
A. M. means before noon. P. M. means after noon.

5. Each day begins at midnight. From midnight to noon is __ hours; from noon to noon __ hours.

6. A.M. means the time from 12:00 P.M. to __ M.

7. P.M. means the time from 12:00 M. to __ P.M.

8. 4:00 A.M. means __ hours past midnight.

9. 9:00 A.M. means __ hours before noon.

10. 3:00 P.M. means __ hours past noon.

11. 10:00 P.M. means __ hours before midnight.

12. 2:15 P.M. means __ hours and __ minutes past noon.

13. 10:50 A.M. means __ hour and __ minutes until noon.

14. 11:35 P.M. means __ minutes until midnight.

Long Measure

Learn the table of long measure.

12 inches (in.) = 1 foot (ft.)	**5280 ft. = 1 mile (mi.)**
3 feet = 1 yard (yd.)	**1760 yd. = 1 mile**

1. Guess the number of feet in the length and in the width of your schoolroom. Then measure the room to find the length and the width.

2. Measure the length and width of your school grounds. Find the length in feet; in yards.

3. In how many minutes can you walk a mile?

4. Name a place about one mile from your school. Name a place one-half mile from your home.

5. What is your height in inches?

6. How far do you live from Washington, D. C.?

7. How many inches are there in a yard? in a half yard? in a quarter yard?

8. Fred is 4 ft. tall. He is __ inches tall.

9. See how nearly you can draw lines 1 yd. long, 1 ft. long, 2 ft. long, and 18 in. long.

10. On the board draw a line 2 ft. 6 in. long; 1 yd. 1 ft.; 1 yd. 11 in.; and 1 yd. 2 ft. 4 in.

Find the missing numbers in the following:

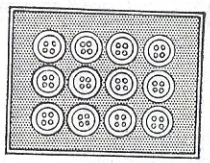
11. 7 yd. = __ ft. 9 yd. = __ ft. 2 yd. = __ ft.

12. 9 ft. = __ in. 8 ft. = __ in. 4 ft. = __ in.

13. 4 yd. = __ ft. 6 ft. = __ in. 8 yd. = __ ft.

Unit 12. Review of Easy Division Facts

Division Facts for 3



When you buy a dozen buttons, you see that they are arranged by 3's and 4's. You have learned that $3 \times 4 = 12$. 12 is divided into 3 equal parts with 4 in each part and also into 4 equal parts with 3 in each part.

$$3 \times 4 = 12$$

$$3\overline{)12} \qquad 4\overline{)12}$$

From the multiplication fact, $3 \times 4 = 12$, you can get two division facts: $12 \div 3 = 4$ and $12 \div 4 = 3$.

The signs $\div$ and $)\overline{\ }$ mean **divided by.** $3\overline{)12}$ is read "12 divided by 3 = 4" or "3 in 12, 4."

"12 divided by 4 equals 3" may be written in the three shorter ways shown at the right.

$$4\overline{)12}$$

$$12 \div 4 = 3$$

$$\tfrac{1}{4} \text{ of } 12 = 3$$

"$\frac{1}{4}$ of 12 = 3" is read "one fourth of 12 is 3." To find $\frac{1}{4}$ of a number, divide the number by 4.

1. When you buy three cans of milk for 18¢, how much do you pay for one can of milk?

$$3\overline{)18}$$

2. When you can buy large oranges at 6¢ each, how many oranges can you get for 18¢?

$$6\overline{)18}$$

Other Easy Division Facts

1. Use $2\times3=6$ to help you find six missing numbers in the divisions at the right.

You may write a division fact in three different ways:

$6\div2=3$ $\quad \frac{1}{2}$ of $6=3$ $\quad 2\overline{)6}^{\,3}$

$2\times3=6$
$6\div2=\_\_$
$6\div3=\_\_$
$2\overline{)6}$ $\quad 3\overline{)6}$
$\frac{1}{2}$ of $6=\_\_$
$\frac{1}{3}$ of $6=\_\_$

2. Use $2\times4=8$ to find the missing numbers.

$2\times4=\_\_$ $\quad 8\div4=\_\_$ $\quad 8\div2=\_\_$

$2\overline{)8}$ $\quad 4\overline{)8}$ $\quad \frac{1}{2}$ of $8=\_\_$ $\quad \frac{1}{4}$ of $8=\_\_$

Find the products missing below. Then write the division facts that you can get from each.

3. $2\times5=\_\_$ $\quad 3\times5=\_\_$ $\quad 3\times3=\_\_$

4. $2\times8=\_\_$ $\quad 2\times9=\_\_$ $\quad 3\times6=\_\_$

5. $4\times5=\_\_$ $\quad 3\times7=\_\_$ $\quad 4\times6=\_\_$

6. $3\times8=\_\_$ $\quad 4\times8=\_\_$ $\quad 5\times5=\_\_$

Find the answers to the examples below:

7. $\begin{array}{r} 9 \\ \times 3 \\ \hline \end{array}$ $\quad 3\overline{)27}$ $\quad 9\overline{)27}$ $\quad\quad$ $\begin{array}{r} 7 \\ \times 4 \\ \hline \end{array}$ $\quad 4\overline{)28}$ $\quad 7\overline{)28}$

8. $\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$ $\quad 4\overline{)36}$ $\quad 9\overline{)36}$ $\quad\quad$ $\begin{array}{r} 7 \\ \times 5 \\ \hline \end{array}$ $\quad 5\overline{)35}$ $\quad 7\overline{)35}$

9. $\begin{array}{r} 6 \\ \times 5 \\ \hline \end{array}$ $\quad 5\overline{)30}$ $\quad 6\overline{)30}$ $\quad\quad$ $\begin{array}{r} 8 \\ \times 4 \\ \hline \end{array}$ $\quad 4\overline{)32}$ $\quad 8\overline{)32}$

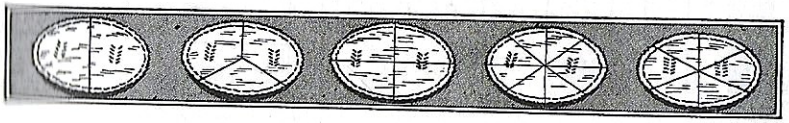
10. $\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$ $\quad 5\overline{)45}$ $\quad 9\overline{)45}$ $\quad\quad$ $\begin{array}{r} 8 \\ \times 5 \\ \hline \end{array}$ $\quad 5\overline{)40}$ $\quad 8\overline{)40}$

Dividing a Whole into Equal Parts

When you cut an apple into two equal parts, you will have two halves, written $\frac{2}{2}$. One of two halves is called one half, written $\frac{1}{2}$.

When you divide any whole thing, such as an apple, a pie, or a square into a number of equal parts, the parts are called **fractions.**

1. How many equal parts has each pie below?



A $\frac{2}{2}$ $\quad$ B $\frac{3}{3}$ $\quad$ C $\frac{4}{4}$ $\quad$ D $\frac{8}{8}$ $\quad$ E $\frac{6}{6}$

2. Which pie is divided into halves? into thirds? into fourths? into eighths? into sixths?

3. Write these fractions: one half, one third, two thirds, one fourth, three fourths, one eighth, three eighths, one sixth, five sixths, four fourths.

4. Fold a strip of paper into halves; then into fourths; then into eighths.

$\frac{1}{2}$	$\frac{1}{2}$

$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$

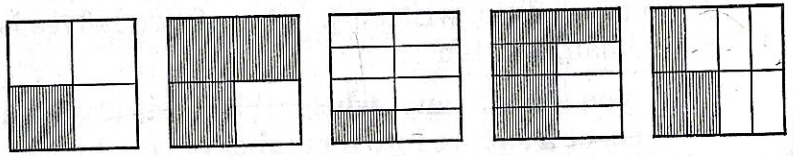
5. Fold a strip into thirds; then into sixths.

6. Draw a circle or a square to show each of these:

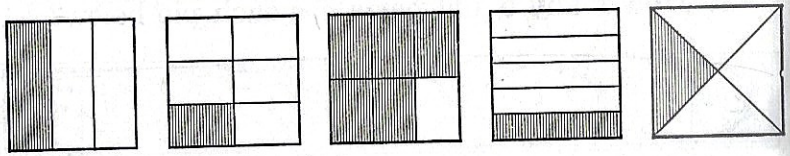
$\frac{1}{1}$ $\quad \frac{4}{4}$ $\quad \frac{5}{5}$ $\quad \frac{6}{6}$ $\quad \frac{8}{8}$

Finding Equal Parts of a Whole

1 2 3 4 5



6 7 8 9 10



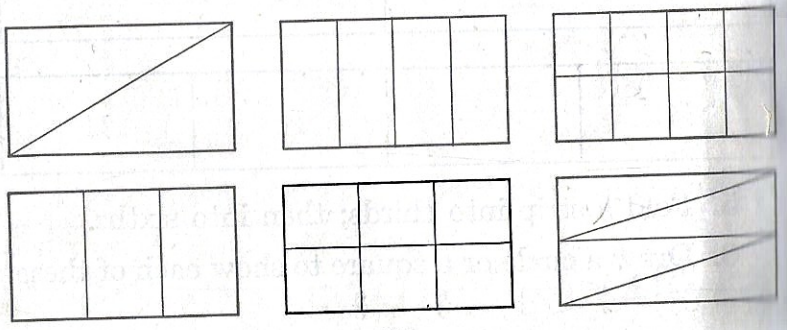
1. Write the fraction to show the shaded part of each square above.

2. Write the fractions for the other parts.

3. Which squares show that $\frac{1}{2}=\frac{2}{4}$? $\frac{1}{2}=\frac{4}{8}$?

4. Which squares show that $\frac{1}{2}=\frac{3}{6}$? $\frac{1}{4}=\frac{2}{8}$? $\frac{1}{3}=\frac{2}{6}$?

5. Fold small sheets of paper to show the equal parts in each of the rectangles below. Write the fraction for all the parts in each rectangle. Then write the fraction for one of the parts in each rectangle.



Should You Multiply or Divide?

For each problem tell what is given and what is to be found. Decide whether you should multiply or divide, and then find the answers.

1. Fred has 15¢ to buy oranges. At 5¢ each, how many oranges can he buy?

Given: 15¢, cost of the oranges.
5¢, price of 1 orange.
To find: number of oranges.

$$5\overline{)15}\quad 3$$

2. Jack paid 15¢ for 3 pencils. What was the price of 1 pencil?

Given: 15¢, cost of the pencils.
3, number of pencils.
To find: price of 1 pencil.

$$3\overline{)15}\quad 5$$

3. Ruth bought 6 stamps at 3¢ each. What was the cost of the stamps?

$$3 \times 6$$

4. At 5¢ each, how many ice-cream cones can you buy for 20¢?

5. What do eight 6-cent bars of soap cost?

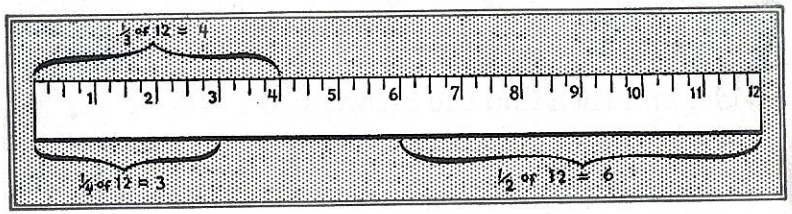
6. Alice has 24¢. At 3¢ each, how many Christmas cards can she buy?

7. At 40¢ a dozen, what is the cost of 5 dozen eggs?

8. At 6 cents each, how many stamps can you buy for 30 cents?

9. Ray worked for his father every afternoon but Sunday for 24 days. How many weeks did he work for his father?

Dividing a Number into Equal Parts



Give the missing numbers.

1. If you divide a one-foot ruler into 2 equal parts, each part is __ inches long.

2. If you divide the ruler into 3 equal parts, each part is __ inches long.

3. If you divide the ruler into 4 equal parts, each part is __ inches long.

4. $\frac{1}{2}$ of 12 = __ $\frac{1}{3}$ of 12 = __ $\frac{1}{4}$ of 12 = __

5. Four boys divided 20 apples equally among themselves. How many apples did each boy get?

$$4\overline{)20}\quad 5$$

Each boy got $\frac{1}{4}$ of __ apples. $\frac{1}{4}$ of 20 = __.

In $4\overline{)20}\quad 5$, 4 is the **divisor,** 20 is the **dividend,** and 5 is the **quotient.**

Find the answers to the problems below:

6. Five boys divided 35 plums equally among themselves. What was each boy's share?

7. Ray shared 18 marbles equally with his brother. How many marbles did his brother get?

8. In a room there were 36 seats placed in 4 equal rows. How many seats were in each row?

Third Self-Test

Test Your Work in Division

Divide. Practice until you can get every answer right.

1.	$5\overline{)30}$	$3\overline{)3}$	$2\overline{)12}$	$6\overline{)6}$	$3\overline{)15}$	$3\overline{)24}$
2.	$4\overline{)12}$	$1\overline{)7}$	$3\overline{)27}$	$4\overline{)20}$	$6\overline{)18}$	$8\overline{)40}$
3.	$6\overline{)24}$	$2\overline{)8}$	$5\overline{)45}$	$2\overline{)6}$	$7\overline{)21}$	$4\overline{)28}$
4.	$2\overline{)14}$	$4\overline{)32}$	$5\overline{)25}$	$1\overline{)4}$	$6\overline{)30}$	$2\overline{)18}$
5.	$8\overline{)8}$	$5\overline{)40}$	$7\overline{)14}$	$2\overline{)10}$	$7\overline{)35}$	$4\overline{)16}$
6.	$3\overline{)18}$	$7\overline{)28}$	$3\overline{)9}$	$9\overline{)9}$	$4\overline{)36}$	$6\overline{)12}$
7.	$3\overline{)12}$	$2\overline{)16}$	$9\overline{)45}$	$7\overline{)7}$	$5\overline{)15}$	$8\overline{)24}$
8.	$1\overline{)8}$	$5\overline{)35}$	$3\overline{)6}$	$9\overline{)27}$	$5\overline{)20}$	$1\overline{)1}$
9.	$2\overline{)4}$	$5\overline{)5}$	$8\overline{)32}$	$5\overline{)10}$	$9\overline{)36}$	$8\overline{)16}$
10.	$1\overline{)9}$	$4\overline{)24}$	$1\overline{)2}$	$3\overline{)21}$	$4\overline{)8}$	$9\overline{)18}$

Write the answers for the following:

11.	$\frac{1}{3}$ of 9	$\frac{1}{2}$ of 10	$\frac{1}{4}$ of 8	$\frac{1}{5}$ of 10
12.	$\frac{1}{2}$ of 12	$\frac{1}{3}$ of 12	$\frac{1}{4}$ of 12	$\frac{1}{6}$ of 12
13.	$\frac{1}{3}$ of 15	$\frac{1}{5}$ of 15	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 16
14.	$\frac{1}{8}$ of 16	$\frac{1}{2}$ of 18	$\frac{1}{3}$ of 18	$\frac{1}{6}$ of 18
15.	$\frac{1}{4}$ of 20	$\frac{1}{5}$ of 20	$\frac{1}{2}$ of 14	$\frac{1}{7}$ of 14
16.	$\frac{1}{7}$ of 21	$\frac{1}{2}$ of 8	$\frac{1}{4}$ of 24	$\frac{1}{5}$ of 25

Test Your Problem Solving

Work each problem.

1. If you buy a 15-cent top, how much change should you get from a half dollar?

2. At 5¢ each, how many oranges can you buy for 35¢?

3. Dick can ride his bicycle 7 miles an hour. How far can he ride in 4 hours?

4. How many tomato plants will you need to plant 4 rows with 8 plants in each row?

5. How much money will Frank need for a ball costing 60¢ and a knife costing $1.80?

6. Ellen sold 7 boxes of berries to a neighbor last summer at 8¢ a box. How much did she get for the berries?

7. Jane saves 5¢ a week. How many weeks will it take her to save 45¢?

8. The length of a room is 18 feet. What is the length of the room in yards?

9. Ray is 14 years old, and Fred is 8 years old. Ray is how many years older than Fred?

10. If you walk at a speed of 3 miles an hour, how long will it take to walk 9 miles?

11. Ben paid 30¢ for 6 pencils. What was the price of one pencil?

12. If a motorboat travels at a speed of 8 miles an hour, how far will it go in 7 hours?

Unit 13. New Division Facts

Dividing by 6, 7, 8, and 9

Copy the examples and write the products. Use each product to help you find two quotients.

1.	$\begin{array}{r} 7 \\ \times\ 6 \\ \hline 42 \end{array}$	$6\overline{)42}$	$7\overline{)42}$	$\begin{array}{r} 8 \\ \times\ 6 \\ \hline 48 \end{array}$	$6\overline{)48}$	$8\overline{)48}$
2.	$\begin{array}{r} 9 \\ \times\ 6 \\ \hline \end{array}$	$6\overline{)54}$	$9\overline{)54}$	$\begin{array}{r} 8 \\ \times\ 7 \\ \hline \end{array}$	$7\overline{)56}$	$8\overline{)56}$
3.	$\begin{array}{r} 9 \\ \times\ 7 \\ \hline \end{array}$	$7\overline{)63}$	$9\overline{)63}$	$\begin{array}{r} 9 \\ \times\ 8 \\ \hline \end{array}$	$8\overline{)72}$	$9\overline{)72}$

Write a product for each multiplication below. Find one quotient in each example.

4.	$\begin{array}{r} 6 \\ \times\ 6 \\ \hline \end{array}$	$6\overline{)36}$	$\begin{array}{r} 7 \\ \times\ 7 \\ \hline \end{array}$	$7\overline{)49}$	$\begin{array}{r} 8 \\ \times\ 8 \\ \hline \end{array}$	$8\overline{)64}$	$\begin{array}{r} 9 \\ \times\ 9 \\ \hline \end{array}$	$9\overline{)81}$

Write answers for the following on folded paper:

5.	$6\overline{)42}$	$6\overline{)36}$	$9\overline{)72}$	$6\overline{)54}$	$9\overline{)63}$	$8\overline{)48}$
6.	$7\overline{)35}$	$8\overline{)56}$	$7\overline{)49}$	$9\overline{)81}$	$7\overline{)56}$	$8\overline{)64}$
7.	$7\overline{)42}$	$9\overline{)54}$	$7\overline{)63}$	$9\overline{)45}$	$6\overline{)48}$	$8\overline{)72}$
8.	$\frac{1}{3}$ of 21	$\frac{1}{4}$ of 24	$\frac{1}{3}$ of 24	$\frac{1}{6}$ of 24		
9.	$\frac{1}{8}$ of 24	$\frac{1}{5}$ of 25	$\frac{1}{3}$ of 27	$\frac{1}{9}$ of 27		
10.	$\frac{1}{4}$ of 28	$\frac{1}{7}$ of 28	$\frac{1}{5}$ of 30	$\frac{1}{6}$ of 30		
11.	$\frac{1}{4}$ of 32	$\frac{1}{8}$ of 32	$\frac{1}{5}$ of 35	$\frac{1}{7}$ of 35		

Sight Problems

Read the problems. Write the answers only.

1. If you pay 30¢ for 6 oranges, what is the price of 1 orange?

2. If you change 35¢ for nickels to put in your bank, how many nickels should you get?

3. When 6 pounds of apples sell for 24¢, what is the price per pound?

4. At 7¢ each, how many loaves of bread can you buy for 28¢?

5. What is the sum of 12, 4, and 5?

6. What is the product of 5 and 10?

7. What is the difference between 2 and 6?

8. What is the quotient of $18 \div 6$?

9. In $7-3=4$, what is the minuend?

10. How many times is 2 contained in 12?

11. In $3 \times 7 = 21$, what is the product?

12. Seven nickels equal how many cents?

13. Forty cents equal how many nickels?

14. How many pint bottles can be filled from 6 quarts of milk?

15. How many quart bottles can be filled from 8 gallons of milk?

16. Charlotte bought 14 roses for a party and divided them equally with her sister. How many roses did each girl receive?

Practice in Division

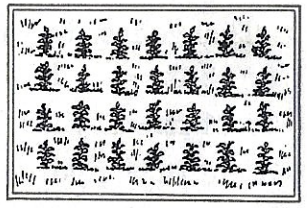
Think the quotients quickly. Then write them on folded paper.

1.	$8\overline{)32}$	$2\overline{)18}$	$6\overline{)36}$	$4\overline{)24}$	$6\overline{)54}$	$3\overline{)27}$
2.	$7\overline{)21}$	$8\overline{)56}$	$5\overline{)25}$	$6\overline{)42}$	$8\overline{)64}$	$4\overline{)36}$
3.	$4\overline{)16}$	$4\overline{)32}$	$7\overline{)49}$	$6\overline{)18}$	$8\overline{)72}$	$7\overline{)28}$
4.	$9\overline{)63}$	$5\overline{)30}$	$3\overline{)21}$	$7\overline{)42}$	$9\overline{)18}$	$5\overline{)35}$
5.	$9\overline{)27}$	$6\overline{)48}$	$9\overline{)36}$	$8\overline{)24}$	$9\overline{)54}$	$3\overline{)12}$
6.	$4\overline{)20}$	$9\overline{)81}$	$6\overline{)24}$	$4\overline{)28}$	$9\overline{)72}$	$5\overline{)10}$
7.	$6\overline{)30}$	$3\overline{)15}$	$7\overline{)56}$	$5\overline{)15}$	$8\overline{)48}$	$3\overline{)18}$
8.	$4\overline{)12}$	$3\overline{)24}$	$8\overline{)16}$	$7\overline{)63}$	$5\overline{)20}$	$7\overline{)35}$

Sight Problems

1. In measuring, 1 tablespoon equals 3 teaspoons. How many tablespoons do 15 teaspoons equal?

2. If I spend 36¢ for 6 oranges, what is the price of 1 orange?



3. If I set out 28 tomato plants with 7 plants in each row, how many rows are there?

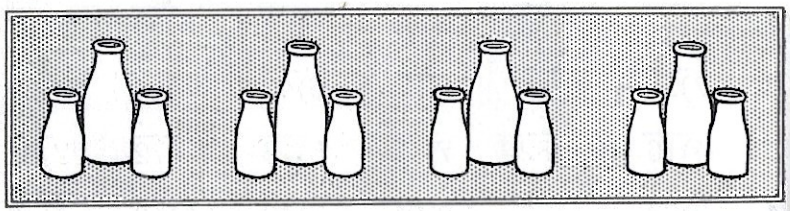
4. If I put 72 plants in 9 equal rows, how many plants do I have in each row?

5. How many nickels are equal to 45¢?

6. How many weeks are there in 42 days?

Changing Units of Measure

Division is used to change smaller units of measure to larger units.



4 qt. = 8 pt. because $2 \times 4 = 8$
8 pt. = 4 qt. because $8 \div 2 = 4$

Tell how you change 4 qt. to pints and how you change 8 pt. to quarts.

Change pints to quarts. (Divide by 2.)

1. 2 pt. = __qt. 12 pt. = __qt. 18 pt. = __qt.
2. 8 pt. = __qt. 14 pt. = __qt. 10 pt. = __qt.

Change quarts to gallons. (Divide by 4.)

3. 4 qt. = __gal. 24 qt. = __gal. 8 qt. = __gal.
4. 12 qt. = __gal. 16 qt. = __gal. 32 qt. = __gal.
5. 36 qt. = __gal. 20 qt. = __gal. 28 qt. = __gal.

Change feet to yards. (Divide by 3.)

6. 3 ft. = __yd. 6 ft. = __yd. 9 ft. = __yd.
7. 21 ft. = __yd. 27 ft. = __yd. 12 ft. = __yd.
8. 18 ft. = __yd. 24 ft. = __yd. 15 ft. = __yd.

Change days to weeks. (Divide by 7.)

9. 7 da. = __wk. 14 da. = __wk. 21 da. = __wk.
10. 42 da. = __wk. 63 da. = __wk. 49 da. = __wk.
11. 28 da. = __wk. 56 da. = __wk. 35 da. = __wk.

Practice in Division

Divide. Write quotients on folded paper. Practice until you get every answer right.

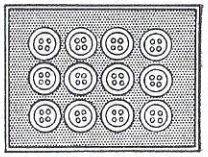
1.	$5\overline{)30}$	$6\overline{)24}$	$8\overline{)56}$	$5\overline{)25}$	$7\overline{)35}$	$4\overline{)28}$
2.	$4\overline{)16}$	$7\overline{)49}$	$6\overline{)18}$	$9\overline{)81}$	$5\overline{)20}$	$7\overline{)63}$
3.	$6\overline{)30}$	$9\overline{)72}$	$3\overline{)18}$	$7\overline{)42}$	$4\overline{)4}$	$9\overline{)36}$
4.	$9\overline{)27}$	$5\overline{)45}$	$7\overline{)28}$	$6\overline{)54}$	$8\overline{)24}$	$6\overline{)42}$
5.	$4\overline{)24}$	$6\overline{)48}$	$3\overline{)21}$	$9\overline{)63}$	$4\overline{)20}$	$8\overline{)40}$
6.	$9\overline{)18}$	$7\overline{)56}$	$9\overline{)45}$	$5\overline{)35}$	$8\overline{)72}$	$3\overline{)27}$
7.	$5\overline{)40}$	$3\overline{)24}$	$8\overline{)64}$	$6\overline{)36}$	$9\overline{)54}$	$7\overline{)21}$

Write answers for the following on folded paper:

8.	$\frac{1}{6}$ of 36	$\frac{1}{7}$ of 14	$\frac{1}{9}$ of 9	$\frac{1}{5}$ of 45
9.	$\frac{1}{3}$ of 6	$\frac{1}{9}$ of 18	$\frac{1}{6}$ of 12	$\frac{1}{7}$ of 63
10.	$\frac{1}{6}$ of 42	$\frac{1}{9}$ of 63	$\frac{1}{9}$ of 81	$\frac{1}{8}$ of 24
11.	$\frac{1}{5}$ of 5	$\frac{1}{7}$ of 56	$\frac{1}{9}$ of 45	$\frac{1}{8}$ of 64
12.	$\frac{1}{7}$ of 49	$\frac{1}{9}$ of 72	$\frac{1}{3}$ of 3	$\frac{1}{5}$ of 40
13.	$\frac{1}{6}$ of 24	$\frac{1}{8}$ of 40	$\frac{1}{9}$ of 54	$\frac{1}{8}$ of 56
14.	$\frac{1}{8}$ of 72	$\frac{1}{4}$ of 28	$\frac{1}{6}$ of 6	$\frac{1}{7}$ of 42
15.	$\frac{1}{7}$ of 7	$\frac{1}{6}$ of 54	$\frac{1}{4}$ of 4	$\frac{1}{8}$ of 8
16.	$\frac{1}{5}$ of 30	$\frac{1}{8}$ of 48	$\frac{1}{7}$ of 35	$\frac{1}{6}$ of 18
17.	$\frac{1}{4}$ of 32	$\frac{1}{9}$ of 36	$\frac{1}{5}$ of 35	$\frac{1}{9}$ of 27

Division and Fractions

1. Draw a picture of a card with a dozen buttons. Put a ring around one half of the buttons.



2. Draw a picture of the card and put a ring around one fourth of the buttons.

3. Put a ring around one third of the buttons.

Sight Problems

1. One half of a dozen is how much?

2. One third of a dozen is how much?

3. One fourth of a dozen is how much?

4. At 40¢ a dozen, what would you have to pay for one-half dozen eggs? (Notice that $\frac{1}{2}$ of a dozen will cost $\frac{1}{2}$ of 40¢.)

5. At 36¢ a dozen, what is the cost of one-fourth dozen oranges?

6. If 16 boys march in 2 equal lines, how many boys will there be in each line?

7. How many gallons of milk will it take to fill 36 quart bottles?

8. If 32 plants are set out in 4 equal rows, how many plants will there be in each row?

9. How many weeks are there in 28 days?

10. How many gallons make 28 quarts?

11. How many yards are equal to 24 feet?

12. Sixteen pints will make how many quarts?

Unit 14. Practice in Division

Using Multiplication to Help You Divide

Write the missing numbers on folded paper.

1.	$4\times\_\_=36$	$6\times\_\_=30$	$7\times\_\_=35$
2.	$7\times\_\_=28$	$8\times\_\_=32$	$3\times\_\_=27$
3.	$4\times\_\_=24$	$7\times\_\_=21$	$3\times\_\_=24$
4.	$3\times\_\_=21$	$9\times\_\_=36$	$5\times\_\_=25$
5.	$9\times\_\_=27$	$8\times\_\_=24$	$4\times\_\_=28$
6.	$4\times\_\_=32$	$6\times\_\_=24$	$5\times\_\_=30$
7.	$8\times\_\_=48$	$7\times\_\_=49$	$6\times\_\_=54$
8.	$8\times\_\_=72$	$9\times\_\_=63$	$8\times\_\_=64$
9.	$7\times\_\_=56$	$5\times\_\_=45$	$8\times\_\_=40$
10.	$9\times\_\_=81$	$6\times\_\_=36$	$6\times\_\_=42$

Write the quotients for the following:

11.	$4\overline{)16}$	$9\overline{)18}$	$5\overline{)35}$	$7\overline{)49}$	$4\overline{)24}$	$8\overline{)64}$
12.	$6\overline{)18}$	$4\overline{)32}$	$6\overline{)54}$	$8\overline{)40}$	$3\overline{)24}$	$9\overline{)81}$
13.	$6\overline{)24}$	$7\overline{)42}$	$9\overline{)54}$	$8\overline{)56}$	$3\overline{)27}$	$6\overline{)36}$
14.	$4\overline{)12}$	$7\overline{)63}$	$9\overline{)45}$	$7\overline{)35}$	$6\overline{)30}$	$8\overline{)72}$
15.	$5\overline{)15}$	$4\overline{)36}$	$8\overline{)24}$	$7\overline{)56}$	$7\overline{)21}$	$4\overline{)28}$
16.	$5\overline{)25}$	$9\overline{)72}$	$3\overline{)18}$	$5\overline{)45}$	$3\overline{)15}$	$9\overline{)36}$
17.	$6\overline{)42}$	$8\overline{)32}$	$7\overline{)28}$	$9\overline{)63}$	$3\overline{)21}$	$9\overline{)27}$

Add, Subtract, Multiply, or Divide?

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Then work the problems.

1. Helen spent 5¢ for a pencil and 15¢ for a tablet. How much did she spend for both?

2. One month during last summer Ben earned $14 and spent $5. How much did he have then?

3. At 5¢ each, what is the cost of 5 oranges?

4. Ida spent 15¢ for pencils at 5¢ each. How many pencils did she buy?

5. How many 6-cent oranges can I get for 54¢?

6. What is the cost of 8 oranges at 6¢ each?

7. If I buy 9 apples for 45¢, what is the price of 1 apple?

8. If a man walks 3 miles in one hour, how far can he walk in 8 hours?

9. When coal sells at $7 a ton, how many tons can be bought for $63?

10. At 30¢ a dozen, what is the cost of one-half dozen oranges?

11. Ruth has a quarter, 2 dimes, and 4 cents in her purse. How many cents do these equal?

12. Ruth's mother bought 8 yards of lace for 72¢. What was the price per yard?

13. After paying 75¢ for a baseball glove, Fred had 12¢ remaining. How much had he at first?

Addition and Subtraction

Add and check:

1.	8	1	7	4	3	5	7	5	8
	2	8	9	4	7	1	6	3	6
	6	2	4	3	8	7	1	9	4
2.	7	9	7	2	7	6	3	6	7
	4	9	8	3	9	6	7	4	7
	5	8	7	1	9	5	6	6	4
3.	6	3	7	8	9	5	9	9	3
	8	9	6	5	5	6	5	1	9
	2	6	5	4	7	4	7	4	4
	6	9	1	8	8	9	7	8	7

4.	83	89	69	36	57	92	76	37
	94	48	91	64	68	84	95	52
	59	95	38	95	67	66	34	86
5.	69	36	43	78	75	72	86	50
	23	62	54	82	32	22	37	97
	45	56	99	67	58	56	30	64
	86	32	85	72	23	26	95	38

Subtract the following. Prove the remainders.

6.	836	816	923	754	511	615	408
	367	169	564	475	449	307	365
7.	453	727	960	806	937	508	600
	370	258	679	369	409	209	298

Answer the following questions:

8. What is the sum of 37 and 96?

9. What is the difference between 96 and 37?

Problem Practice

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Then find the answers.

1. The Lincoln Public School has 48 small flags to be divided equally among 6 rooms. How many flags are there for each room?

2. If a farmer drives his team 4 miles an hour, how long will it take him to go 12 miles?

3. Alice paid 36¢ for 6 pounds of sugar. What was the price per pound?

4. At a speed of 9 miles an hour, how long will it take a motorboat to go 54 miles?

5. At a speed of 36 miles an hour, how far will a freight train travel in 9 hours?

6. Mr. Harper gave each of his 4 sons a pair of roller skates that cost $2.98 a pair. How much did he pay for the skates?

7. Dick had 40 tomatoes to divide equally among 8 baskets. How many did he put in each basket?

8. There are 9 players on a ball team. How many are needed for 8 teams?

9. The 35 pupils in our class were divided into 7 equal teams. How many were there on each team?

10. Fred has 2 dimes, 3 quarters, and a half dollar. How much money has he in all?

Practice for Correct Work

Give quotients quickly, and then write them.

1.	$5\overline{)40}$	$3\overline{)18}$	$9\overline{)81}$	$8\overline{)24}$	$5\overline{)35}$	$8\overline{)72}$
2.	$9\overline{)18}$	$6\overline{)54}$	$7\overline{)35}$	$4\overline{)20}$	$7\overline{)63}$	$5\overline{)15}$
3.	$6\overline{)36}$	$8\overline{)40}$	$9\overline{)72}$	$5\overline{)30}$	$4\overline{)32}$	$7\overline{)49}$
4.	$5\overline{)45}$	$6\overline{)30}$	$8\overline{)24}$	$9\overline{)63}$	$3\overline{)15}$	$8\overline{)64}$
5.	$9\overline{)9}$	$7\overline{)21}$	$9\overline{)45}$	$7\overline{)56}$	$8\overline{)32}$	$9\overline{)27}$
6.	$3\overline{)21}$	$4\overline{)36}$	$7\overline{)42}$	$4\overline{)28}$	$3\overline{)27}$	$8\overline{)48}$
7.	$9\overline{)36}$	$7\overline{)28}$	$4\overline{)24}$	$3\overline{)12}$	$9\overline{)54}$	$4\overline{)36}$

Write the products of the numbers below:

8.	6	7	3	7	6	8	4	8	7
	8	4	6	8	6	4	6	8	6
9.	7	6	3	8	7	9	6	5	6
	9	4	8	6	5	8	7	6	9
10.	9	5	8	7	9	3	6	9	5
	6	7	9	3	4	7	5	7	8
11.	8	5	4	5	9	8	4	8	7
	7	9	8	3	9	5	7	3	7

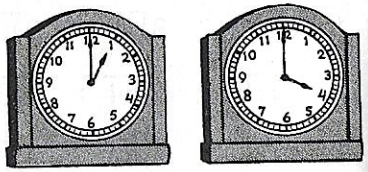
Problems

1. An oil tank contains 75 gallons of oil. How many quarts of oil are there in the tank?

2. A bushel of oats weighs 32 pounds. How many pounds of oats are there in 48 bushels?

Measuring Time

Give the numbers missing below:

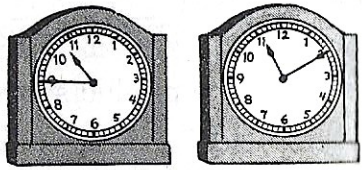


1. From 1:00 P.M. to 4:00 P.M. is ___ hr.

2. From 10:00 A.M. to 2:00 P.M. is ___ hr.

3. From 2:30 P.M. to 2:45 P.M. is ___ min.

4. From 8:50 A.M. to 9:00 A.M. is ___ min.



5. From 10:45 A.M. to 11:00 A.M. is ___ min.

6. From 11:00 A.M. to 11:10 A.M. is ___ min.

7. From 10:45 A.M. to 11:10 A.M. is ___ min.

8. A train is due to arrive at 1:10 P.M. If it is 15 minutes late, it will arrive at ___ P.M.

9. 1 hr. = 60 min. $\frac{1}{2}$ hr. = 30 min. $\frac{1}{5}$ hr. = ___ min.
$\frac{1}{3}$ hr. = 20 min. $\frac{1}{4}$ hr. = 15 min. $\frac{1}{6}$ hr. = ___ min.

10. 1 min. = ___ sec. $\frac{1}{2}$ min. = ___ sec. $\frac{1}{5}$ min. = ___ sec.
$\frac{1}{4}$ min. = ___ sec. $\frac{1}{3}$ min. = ___ sec. $\frac{1}{6}$ min. = ___ sec.

11. A train is due at 3:30 P.M. It is now 3:05. In how many minutes is the train due?

12. Our train is due at 12:10 P.M. We started for the station at 11:40 A.M. How many minutes did we start before the train was due? If the train was 20 minutes late, when did it arrive?

Unit 15. A New Step in Division

Division with Remainder

1. If you have 10 cents, how many 3-cent stamps can you buy?

Think $3\overline{)10}$. Write 3.
Think $3\times3=9$. Think $10-9=1$.
Write $r1$ (r=remainder).
Proof: $3\times3+1=10$.

$$3)\overline{10}\quad 3r1$$

You can buy three 3-cent stamps and have 1 cent left over.

2. Four girls wanted to divide a dime equally among themselves. They got 10 cents in change for the dime. How many cents should each get?

Think $4\overline{)10}$. Write $2r2$. Each girl should get 2 cents, and they will have 2 cents remaining.

$$4)\overline{10}\quad 2r2$$

Write the answers for the following:

1. $2\overline{)5}$ 2r1	$2\overline{)7}$ 3r1	$2\overline{)9}$ 4r1	$2\overline{)11}$ 5r1	$2\overline{)13}$ 6r1	$2\overline{)15}$ 7r1
2. $2\overline{)3}$ 1r1	$2\overline{)17}$ 8r1	$2\overline{)19}$ 9r1	$3\overline{)4}$ 1r1	$3\overline{)5}$ 1r2	$3\overline{)7}$ 2r1
3. $3\overline{)8}$ 2r2	$3\overline{)10}$ 3r1	$3\overline{)13}$ 4r1	$3\overline{)16}$ 5r1	$3\overline{)11}$ 3r2	$3\overline{)17}$ 5r2
4. $3\overline{)20}$	$3\overline{)19}$	$4\overline{)5}$	$4\overline{)9}$	$4\overline{)11}$	$4\overline{)7}$
5. $4\overline{)13}$	$4\overline{)6}$	$4\overline{)10}$	$4\overline{)17}$	$4\overline{)19}$	$4\overline{)14}$
6. $4\overline{)18}$	$4\overline{)15}$	$5\overline{)7}$	$5\overline{)9}$	$5\overline{)11}$	$5\overline{)8}$
7. $5\overline{)12}$	$5\overline{)16}$	$5\overline{)19}$	$5\overline{)17}$	$5\overline{)13}$	$5\overline{)18}$

Remainder in Division

Write the quotients and the remainders.

1.	$3\overline{)14}$	$6\overline{)7}$	$7\overline{)8}$	$6\overline{)17}$	$5\overline{)9}$	$5\overline{)21}$
2.	$9\overline{)10}$	$5\overline{)31}$	$4\overline{)30}$	$6\overline{)8}$	$5\overline{)34}$	$8\overline{)10}$
3.	$7\overline{)11}$	$5\overline{)22}$	$9\overline{)20}$	$5\overline{)32}$	$4\overline{)33}$	$5\overline{)38}$
4.	$9\overline{)19}$	$7\overline{)10}$	$6\overline{)9}$	$7\overline{)12}$	$5\overline{)36}$	$8\overline{)14}$
5.	$5\overline{)33}$	$4\overline{)31}$	$6\overline{)19}$	$6\overline{)10}$	$8\overline{)17}$	$5\overline{)23}$
6.	$9\overline{)11}$	$5\overline{)24}$	$4\overline{)34}$	$7\overline{)18}$	$5\overline{)26}$	$6\overline{)11}$
7.	$7\overline{)13}$	$9\overline{)12}$	$4\overline{)35}$	$6\overline{)20}$	$8\overline{)11}$	$4\overline{)37}$
8.	$7\overline{)19}$	$4\overline{)38}$	$9\overline{)16}$	$5\overline{)27}$	$4\overline{)39}$	$7\overline{)15}$
9.	$9\overline{)17}$	$6\overline{)13}$	$6\overline{)22}$	$8\overline{)13}$	$5\overline{)28}$	$7\overline{)20}$
10.	$7\overline{)16}$	$9\overline{)13}$	$5\overline{)29}$	$9\overline{)15}$	$6\overline{)14}$	$5\overline{)37}$
11.	$6\overline{)15}$	$8\overline{)12}$	$7\overline{)17}$	$6\overline{)16}$	$9\overline{)14}$	$8\overline{)15}$

Problems

1. Jack has a quarter. How many 3-cent stamps can he buy with his money? What change should he get?

$$3\overline{)25}\quad 8\text{r}1$$

2. There are 34 children in our class. The teacher arranges them for marching in ranks of 4 each. How many ranks are there and how many children are left for the last rank?

3. How many nickels and cents equal 24¢? 30¢

Sight Problems

Tell whether you should add, subtract, multiply, or divide. Then find the answers.

1. At 3¢ each, what will 4 marbles cost?

2. At 4¢ each, how many pears can I get for 15¢?

3. When 6 oranges are sold for 24¢, what is the price of 1 orange?

4. If a man walks 3 miles an hour, how long will it take him to walk 18 miles?

5. If Ben saves 5¢ a week, how long will it take him to save 30¢?

6. Frank is 9 years old. In how many years will he be 17 years old?

7. When the price of lemons is 4¢ each, how many lemons can you buy for 40¢?

8. Thirty-two quarts of milk will make how many gallons of milk?

9. Helen is 11 years old. How old will she be in 9 years from now?

10. If Ray sells 8 boxes of berries at 6¢ a box, how much will he get for them?

11. A garage rents for $6 a month. What will the rent be for a year?

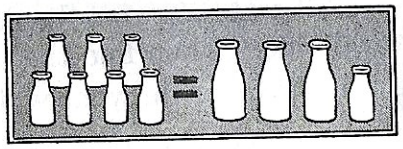
12. A 5-gallon can will hold how many quarts?

13. How much will 8 quarts of milk cost at 13¢ a quart?

Division with Remainder

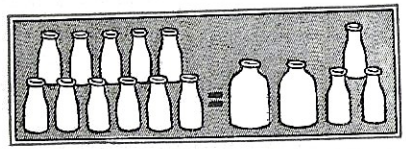
1. How many quarts are there in 7 pt.?

Think $2\overline{)7}$. Write 3*r*1. There are 3 qt. and 1 pt.

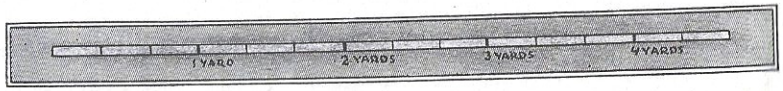


2. Change 11 quarts to gallons and quarts.

Think $4\overline{)11}$. The answer is __ gal. and __ qt.



3. Fourteen feet equal how many yards and feet?



The drawing shows __ ft. or __ yd. and __ ft. To change 14 ft. to yards and feet, think $3\overline{)14}$.

Divide the following. Prove answers.

4.	$9\overline{)20}$	$4\overline{)30}$	$5\overline{)23}$	$8\overline{)31}$	$5\overline{)41}$	$8\overline{)25}$
5.	$6\overline{)21}$	$8\overline{)18}$	$6\overline{)39}$	$8\overline{)33}$	$7\overline{)22}$	$5\overline{)23}$
6.	$9\overline{)29}$	$6\overline{)38}$	$5\overline{)42}$	$8\overline{)34}$	$6\overline{)32}$	$8\overline{)19}$
7.	$5\overline{)44}$	$8\overline{)26}$	$7\overline{)23}$	$9\overline{)21}$	$6\overline{)25}$	$8\overline{)35}$
8.	$6\overline{)26}$	$9\overline{)28}$	$8\overline{)20}$	$6\overline{)33}$	$7\overline{)25}$	$6\overline{)37}$
9.	$8\overline{)37}$	$5\overline{)43}$	$8\overline{)38}$	$6\overline{)27}$	$8\overline{)36}$	$9\overline{)22}$
10.	$8\overline{)29}$	$7\overline{)24}$	$6\overline{)28}$	$9\overline{)23}$	$8\overline{)28}$	$5\overline{)46}$
11.	$9\overline{)26}$	$6\overline{)29}$	$5\overline{)49}$	$8\overline{)21}$	$6\overline{)34}$	$7\overline{)29}$
12.	$9\overline{)24}$	$5\overline{)47}$	$8\overline{)22}$	$6\overline{)35}$	$7\overline{)26}$	$8\overline{)37}$

Changing Smaller Units to Larger Units

Change pints to quarts and pints. (Divide by 2.)

1. 5 pt., 7 pt., 11 pt., 9 pt.

2. 15 pt., 13 pt., 19 pt., 17 pt.

Change feet to yards and feet. (Divide by 3.)

3. 4 ft., 8 ft., 16 ft., 7 ft., 10 ft.

4. 15 ft., 20 ft., 29 ft., 23 ft., 26 ft.

Change quarts to gallons and quarts. (Divide by 4.)

5. 5 qt., 10 qt., 18 qt., 9 qt., 15 qt.

6. 29 qt., 35 qt., 23 qt., 30 qt., 38 qt.

Practice in Multiplication and Division

Multiply the following:

1.	16 × 6	49 × 8	67 × 4	18 × 9	78 × 3	94 × 7	58 × 5	37 × 8
2.	17 × 7	96 × 3	75 × 9	87 × 4	93 × 5	27 × 6	64 × 9	56 × 8
3.	65 × 7	92 × 9	83 × 6	24 × 5	82 × 8	76 × 5	94 × 6	83 × 7
4.	159 × 6	375 × 8	753 × 7	615 × 9	462 × 8	286 × 6		
5.	529 × 7	487 × 9	547 × 6	159 × 8	418 × 7	293 × 9		

Divide the following. Prove answers.

6.	$6\overline{)40}$	$5\overline{)34}$	$4\overline{)39}$	$7\overline{)30}$	$4\overline{)18}$	$7\overline{)38}$
7.	$7\overline{)32}$	$5\overline{)42}$	$6\overline{)47}$	$6\overline{)43}$	$3\overline{)29}$	$7\overline{)34}$

Measures of Weight

Learn the table of weights.

16 ounces (oz.) = 1 pound (lb.)
2000 pounds = 1 ton (T.)

Measures of weight are used more than any other kind of measure. Everything shipped by freight, express, truck, or mail must be weighed.

1. Tell where you have seen a scale.

2. Name some things which are weighed on a scale and sold in each of these: grocery stores, hardware stores, and meat and fish shops.

3. A grocery store sells many kinds of foods in cans or paper boxes of different sizes. On each can or box you find its weight. Make a list of foods in cans, boxes, or sacks used in your home. Give the weight of each.

4. Name several things which are sold by the ounce, by the pound, and by the ton.

5. The farmer sells cattle, hogs, sheep, milk, hay, potatoes, cotton, and grain by weight. At $8.75 per ton, how much would a farmer get for 65 tons of hay?

6. How many ounces does $\frac{1}{4}$ lb. of butter weigh?

7. One-half ton of coal weighs how many pounds?

8. How would you change 5 pounds to ounces?

9. How would you change 6 tons to pounds?

Unit 16. Practice in Multiplication and Division

Can You Multiply Correctly?

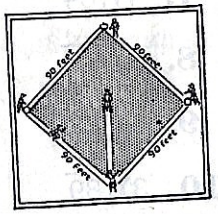
Multiply. To check, multiply again.

1.	13 × 6	41 × 7	95 × 5	27 × 3	53 × 9	49 × 4	74 × 9	69 × 3
2.	57 × 7	37 × 5	79 × 8	78 × 6	73 × 7	37 × 8	91 × 9	84 × 8
3.	46 × 6	59 × 4	26 × 9	49 × 5	68 × 7	29 × 7	62 × 8	59 × 6
4.	57 × 87	85 × 69	67 × 34	39 × 77	25 × 94	92 × 58	47 × 75	58 × 86
5.	38 × 95	84 × 78	73 × 86	29 × 59	64 × 67	39 × 74	27 × 68	48 × 74
6.	62 × 85	37 × 79	28 × 97	49 × 86	63 × 98	95 × 75	64 × 59	82 × 96

Problems

1. In an orchard there are 48 rows of trees with 36 in a row. How many trees are there?

2. A baseball diamond is 90 ft. square. How far is it around the diamond?



3. How many boys are needed for 8 teams with 9 boys on each team?

Larger Dividends

1. Two boys divided 48 stamps between them. w many stamps should each boy get?

Think $2\overline{)4}$. Write 2 above the 4.
ink $2\overline{)8}$. Write 4 above the 8. Each
should get 24 stamps. To prove
answer, multiply 24 by 2.

$$\begin{array}{r} 24 \\ 2\overline{)48} \end{array}$$

2. Divide 186 by 3.

Think $3\overline{)18}$. Write 6 above the 8.
ink $3\overline{)6}$. Write 2 above the 6.
e quotient is 62.
oof: $3 \times 62 = 186$.

$$\begin{array}{r} 62 \\ 3\overline{)186} \end{array}$$

3. Divide 260 by 2.

Think $2\overline{)2}$. Write 1 above the 2.
ink $2\overline{)6}$. Write 3 above the 6.
ink $2\overline{)0}$. Write 0 above the 0.
e quotient is 130.
oof: $2 \times 130 = 260$.

$$\begin{array}{r} 130 \\ 2\overline{)260} \end{array}$$

Divide. Prove each answer by multiplying the otient by the divisor.

4. $2\overline{)28}$	$3\overline{)96}$	$5\overline{)55}$	$4\overline{)84}$	$2\overline{)26}$	$2\overline{)88}$
5. $3\overline{)63}$	$2\overline{)42}$	$4\overline{)48}$	$3\overline{)93}$	$3\overline{)39}$	$3\overline{)90}$
6. $2\overline{)66}$	$3\overline{)36}$	$3\overline{)69}$	$2\overline{)84}$	$2\overline{)64}$	$4\overline{)80}$
7. $4\overline{)164}$	$3\overline{)156}$	$5\overline{)255}$	$4\overline{)248}$	$3\overline{)129}$	
8. $2\overline{)148}$	$2\overline{)628}$	$3\overline{)936}$	$4\overline{)848}$	$5\overline{)250}$	
9. $4\overline{)368}$	$3\overline{)279}$	$2\overline{)188}$	$5\overline{)455}$	$4\overline{)264}$	
10. $3\overline{)189}$	$4\overline{)124}$	$5\overline{)405}$	$4\overline{)208}$	$3\overline{)240}$	

Add, Subtract, Multiply, or Divide?

Decide whether you should add, subtract, multiply, or divide. Then work the problems.

1. Last week Fred sold 109 papers at 3¢ each. How much did he get for the papers?

2. If 488 children are to march in 4 lines, how many children will there be in each line?

3. At 3¢ each, how many pencils can you buy for 96¢?

4. A sidewalk is 72 yards long. How many feet long is the walk?

5. Our garden is 126 feet long. How many yards long is the garden?

6. At 3¢ each, how many oranges can be bought for 60¢?

7. If Jack saves 5¢ a week, how many weeks will it take to save 50¢?

8. Fred decided to save a quarter every week. How much money will he have saved at the end of 9 weeks?

9. Ruth has $1.05. She wants a doll that sells for $1.50. How much more money does she need to buy the doll?

10. Four boys divided 128 stamps equally among themselves. How many stamps should each boy get?

11. The train fare to the lake is $4.86. How much must I pay for 3 tickets to the lake?

Practice in Division

1. Dick's father paid $4.00 for 5 gallons of oil. What was the price per gallon?

Divide $4.00 by 5, as shown at the right. Point off two places in the quotient for cents. The price of the oil is $.80 (or 80¢) per gallon. Proof: $5 \times \$.80 = \$4.00$.

$$5\overline{)\$4.00} \quad \$.80$$

2. If you have school 200 days in one year, how many weeks of 5 days each do you have school?

Divide 200 by 5. Think $5\overline{)20}$. Write 4 as shown. Then think $5\overline{)0}$ and write 0. The answer is 40 weeks. Proof: $5 \times 40 = 200$.

$$5\overline{)200} \quad 40$$

Divide the following. Prove each quotient.

3.	$2\overline{)842}$	$3\overline{)699}$	$5\overline{)350}$	$2\overline{)864}$	$5\overline{)205}$
4.	$3\overline{)279}$	$2\overline{)162}$	$5\overline{)105}$	$4\overline{)488}$	$4\overline{)280}$
5.	$2\overline{)684}$	$3\overline{)963}$	$5\overline{)455}$	$5\overline{)155}$	$3\overline{)900}$
6.	$4\overline{)360}$	$5\overline{)400}$	$7\overline{)630}$	$3\overline{)240}$	$7\overline{)210}$
7.	$8\overline{)560}$	$6\overline{)420}$	$9\overline{)810}$	$8\overline{)408}$	$7\overline{)490}$
8.	$2\overline{)188}$	$6\overline{)300}$	$2\overline{)400}$	$4\overline{)840}$	$6\overline{)306}$
9.	$4\overline{)\$1.28}$	$5\overline{)\$1.50}$	$6\overline{)\$2.46}$		$3\overline{)\$1.80}$
10.	$4\overline{)\$8.00}$	$8\overline{)\$4.00}$	$2\overline{)\$2.48}$		$3\overline{)\$1.29}$
11.	$2\overline{)\$1.28}$	$2\overline{)\$6.20}$	$4\overline{)\$2.08}$		$6\overline{)\$3.06}$
12.	$2\overline{)\$1.44}$	$3\overline{)\$9.36}$	$5\overline{)\$3.50}$		$4\overline{)\$3.68}$

Steps in Division

1. Three boys earned 84 cents. If they divide the money equally, how many cents should each boy receive?

Divide 84 by 3.
Divide: Think $3\overline{)8}$. Write 2 above 8.
Multiply: Think 3×2. Write 6 under 8.
Subtract: Think $8 - 6$. Write 2 under 6.
Compare: Think 2 is less than the divisor 3.
Bring down: Bring down 4 from the dividend and write it after 2 to make 24.

$$\begin{array}{r} 28 \\ 3\overline{)84} \\ 6 \\ \hline 24 \\ 24 \\ \hline \end{array}$$

Next, divide 24 by 3.
Divide: Think $3\overline{)24}$. Write 8 in the quotient.
Multiply: Think 3×8. Write 24 under 24.
Subtract: Think $24 - 24$. There is no remainder.
Each boy should receive 28¢. Proof: $3 \times 28 = 84$.

The steps in division are: (1) **divide,** (2) **multiply,** (3) **subtract,** (4) **compare,** and (5) **bring down.**

2. Miss White asked 4 boys to pass out 108 pads. How many did each pass out on the average?

Divide 108 by 4.
Find the numbers missing below which explain the division shown at the right.
Divide: $10 \div$ __. Write __ above 0.
Multiply: $4 \times$ __. Write __ below 0.
Subtract: $10 -$ __. Write __ below 8.
Compare: Is __ less than the divisor 4?
Bring down: Bring down __ and write __ after __. Now divide __ by 4, and write __ above 8. Then multiply 4 by __ and write __ under 28. Subtract __. Proof: $4 \times$ __ $= 108$.

$$\begin{array}{r} 27 \\ 4\overline{)108} \\ 8 \\ \hline 28 \\ 28 \\ \hline \end{array}$$

Mixed Practice

Explain the steps in each example below and prove each quotient:

1.

$3\overline{)168}$	$4\overline{)196}$	$5\overline{)270}$	$6\overline{)204}$
56	49	54	34
15	16	25	18
18	36	20	24
18	36	20	24

The product of the divisor and the quotient equals the dividend.

Divide and prove:

2. $2\overline{)58}$ $3\overline{)81}$ $2\overline{)94}$ $4\overline{)96}$ $3\overline{)87}$ $5\overline{)95}$

3. $4\overline{)148}$ $3\overline{)252}$ $4\overline{)136}$ $6\overline{)456}$ $5\overline{)275}$

4. $5\overline{)325}$ $4\overline{)340}$ $3\overline{)204}$ $4\overline{)100}$ $6\overline{)270}$

5. $3\overline{)231}$ $4\overline{)296}$ $5\overline{)440}$ $2\overline{)118}$ $3\overline{)108}$

Subtract the following. Prove each answer.

6.							
	892	504	613	457	756	844	643
	687	298	309	198	487	635	376

7.							
	576	439	805	711	633	777	904
	488	159	497	598	225	388	497

Add and check:

8.							
	49	85	79	89	98	65	64
	87	78	65	97	48	96	57
	53	79	68	64	59	69	89
	64	42	73	57	73	45	46

Fourth Self-Test

Finding Out What You Have Learned

Write the answer for each question.

1. Which is the quotient in $24 \div 6 = 4$?
2. Twelve is how much more than 3 plus 4?
3. What is $8+3$ taken from 20?
4. What is $9 \div 3$ plus 7?
5. What is 9×2 less 6?
6. Three times 4 is how much more than 9?
7. What is one half of twelve added to eight?
8. Seven plus 8 is how much less than 24?
9. Six times 2 is how much less than 17?
10. What is one half of 12 multiplied by 7?
11. Twenty times 4 is how much more than 75?
12. Six is how much less than $21 \div 3$?
13. What is 10 added to the product of 3 and 4?
14. Twelve is how much less than 3×5?
15. Twelve minus 3 is how much more than 6?
16. Four times 4 is how much less than 21?
17. One and one-half dozen is how much?
18. One and one-third dozen is how much?
19. One and one-fourth dozen is how much?
20. How many eggs are $2\frac{1}{2}$ dozen eggs?
21. One sixth of 3 times 4 is how much?

Test in Sight Problems

Decide whether you should add, subtract, multiply, or divide. Then write the answers.

1. Forty-eight chairs were placed in 6 equal rows. How many chairs were there in each row?

2. At a speed of 45 miles per hour, how far will an automobile go in 2 hours?

3. Six boys shared 54 peaches equally. How many peaches did each boy get?

4. Jane is 48 inches tall, and Ida is 55 inches tall. Ida is how much taller than Jane?

5. If you walk at an average speed of 3 miles an hour, how far will you walk in 4 hours?

6. Frank sold 25 papers at 3 cents each. How much did he get for the papers?

7. Dick is earning $2 a week. How long will it take him to earn $16?

8. Ruth paid 4¢ for soup, 5¢ for a sandwich, and 5¢ for ice cream. Find the cost of her lunch.

9. When you buy 3 pounds of coffee for 90¢, what is the price per pound?

10. When oranges sell at 55¢ a dozen, what is the cost of 4 dozen oranges?

11. A yard is 36 inches. When you buy one-fourth yard of ribbon, how many inches do you buy?

12. At an average speed of 7 mi. an hour, how long will it take a motorboat to run 35 mi.?

Test for Accurate Work

Add and check:

1.	8	4	7	6	9	4	7	9	9
	9	3	4	2	8	7	9	5	9
	7	8	7	5	6	7	6	6	4

2.	56	70	95	96	89	65	93	67
	55	94	64	26	84	54	78	96
	68	92	76	45	38	95	76	87

3.	5	2	1	3	8	7	4	7	6
	9	4	7	9	6	6	9	5	9
	4	5	4	9	5	1	8	6	7
	5	4	9	7	2	5	2	3	4

Subtract the following. Prove the answers.

4.	58	802	607	561	700	314	428
	39	391	429	347	196	296	236

5.	$3.57	$12.45	$8.25	$5.00	$60.05
	2.86	2.25	4.87	2.58	35.78

Divide the following and prove:

6.	$8\overline{)63}$	$7\overline{)64}$	$9\overline{)43}$	$5\overline{)39}$	$9\overline{)49}$	$7\overline{)66}$
7.	$9\overline{)47}$	$6\overline{)41}$	$3\overline{)29}$	$9\overline{)46}$	$8\overline{)66}$	$9\overline{)44}$
8.	$8\overline{)65}$	$7\overline{)67}$	$9\overline{)48}$	$8\overline{)67}$	$9\overline{)50}$	$7\overline{)65}$

Multiply the following. Check answers.

9.	349	962	882	725	976	538
	8	6	7	8	5	9
10.	458	467	579	639	964	478
	5	9	4	7	3	6

Test in Solving Problems

ork the problems.

Four boys divided 304 stamps equally. What each boy's share of the stamps?

Ray earns 35¢ by working in the store each urday. How much will he earn in 12 Saturdays?

. When Mrs. West pays 72¢ for 6 cans of corn, at is the price per can?

. If a freight train runs 112 miles in 7 hours, what he average speed per hour?

5. If 4 people can be seated at one table, how many bles will be needed to serve 104 people at one time?

6. At 64¢ each, what is the cost of 36 arithmetics r the fourth grade?

7. Ben's father drove 933 miles om New York to Milwaukee in 3 ays. What was his average per day?

8. Ray's father paid $945 for 7 cres of land. What was the price per acre?

9. At $75 per acre, what do 80 acres cost?

10. When coal sells at $6 per ton, how many tons of coal can be bought for $144?

11. Ben's father paid $38.80 for 4 auto tires. What was the price per tire?

12. A bushel of potatoes weighs 60 pounds. What is the weight of 75 bushels of potatoes?

Unit 17. Practice in Division

Three Figures in the Quotient

1. Change 471 feet to yards.

Divide 4 by 3. Multiply, subtract, compare, and bring down 7. Divide 17 by 3. Multiply, subtract, compare, and bring down 1. Divide 21 by 3. Multiply and subtract. The answer is 157 yards. Proof: $3 \times 157 = 471$.

$$
\begin{array}{r}
157 \\
3\overline{)471} \\
3 \\
\hline
17 \\
15 \\
\hline
21 \\
21 \\
\hline
\end{array}
$$

Divide the following. Prove your answers. Try to get your first answers correct.

2.	$2\overline{)108}$	$3\overline{)564}$	$3\overline{)777}$	$2\overline{)196}$	$4\overline{)576}$	$5\overline{)865}$
3.	$4\overline{)288}$	$3\overline{)114}$	$5\overline{)705}$	$2\overline{)374}$	$3\overline{)762}$	$4\overline{)612}$
4.	$3\overline{)288}$	$4\overline{)780}$	$5\overline{)670}$	$3\overline{)198}$	$6\overline{)132}$	$6\overline{)144}$
5.	$3\overline{)261}$	$4\overline{)732}$	$4\overline{)152}$	$5\overline{)910}$	$7\overline{)854}$	$7\overline{)161}$
6.	$2\overline{)558}$	$4\overline{)112}$	$5\overline{)295}$	$8\overline{)784}$	$8\overline{)176}$	$6\overline{)972}$

Multiply the following. Check your answers.

7.	649 × 4	637 × 7	290 × 5	379 × 8	564 × 5	641 × 9	306 × 4
8.	514 × 6	416 × 8	847 × 5	826 × 6	597 × 3	738 × 9	906 × 9
9.	592 × 9	425 × 7	258 × 8	875 × 4	809 × 7	379 × 6	957 × 7

Practice in Division

Write the quotients and remainders.

1.	$8\overline{)18}$	$4\overline{)11}$	$7\overline{)24}$	$9\overline{)13}$	$5\overline{)17}$	$6\overline{)16}$
2.	$9\overline{)17}$	$4\overline{)23}$	$6\overline{)21}$	$8\overline{)21}$	$5\overline{)19}$	$9\overline{)40}$
3.	$6\overline{)34}$	$3\overline{)20}$	$4\overline{)14}$	$7\overline{)25}$	$5\overline{)23}$	$8\overline{)19}$
4.	$7\overline{)26}$	$5\overline{)28}$	$6\overline{)23}$	$4\overline{)18}$	$8\overline{)22}$	$9\overline{)15}$
5.	$8\overline{)23}$	$7\overline{)27}$	$4\overline{)19}$	$5\overline{)33}$	$8\overline{)20}$	$6\overline{)28}$
6.	$7\overline{)68}$	$9\overline{)43}$	$8\overline{)69}$	$9\overline{)44}$	$7\overline{)69}$	$8\overline{)68}$

Divide the following. Prove the quotients.

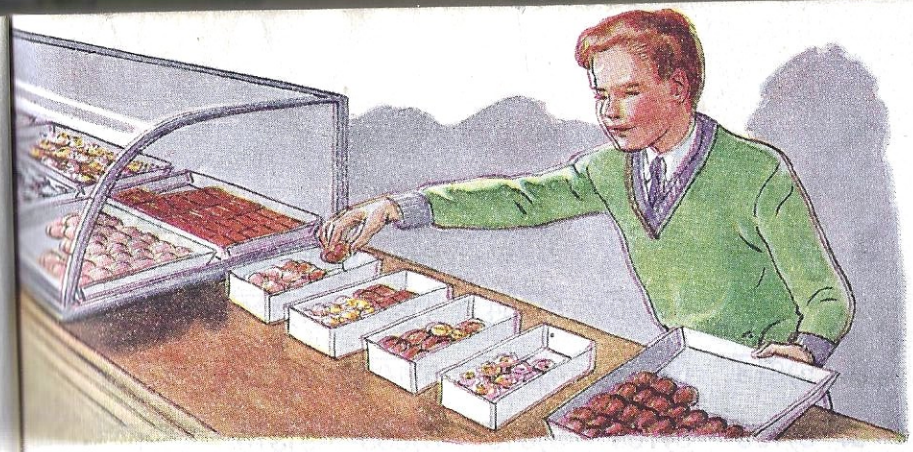
7.	$4\overline{)188}$	$3\overline{)147}$	$2\overline{)136}$	$5\overline{)110}$	$6\overline{)840}$	$6\overline{)684}$
8.	$5\overline{)125}$	$8\overline{)896}$	$9\overline{)108}$	$6\overline{)312}$	$7\overline{)105}$	$8\overline{)200}$
9.	$7\overline{)161}$	$6\overline{)402}$	$3\overline{)231}$	$4\overline{)308}$	$5\overline{)185}$	$8\overline{)128}$
10.	$7\overline{)798}$	$6\overline{)102}$	$4\overline{)396}$	$7\overline{)308}$	$5\overline{)305}$	$9\overline{)126}$
11.	$6\overline{)150}$	$2\overline{)158}$	$4\overline{)236}$	$6\overline{)258}$	$4\overline{)252}$	$8\overline{)432}$
12.	$8\overline{)456}$	$4\overline{)316}$	$6\overline{)186}$	$5\overline{)225}$	$6\overline{)282}$	$7\overline{)224}$

Problems

1. If 172 children march down the stairs in 4 equal lines, how many children will there be in each line?

2. At \$9 per day, how long will it take a man to earn \$225?

3. At 24¢ a bottle, what is the cost of 36 bottles of sirup?



Zeros in the Quotient

1. Ben wanted to divide 123 pieces of candy equally among four boxes. How many pieces was he to put in each box? How many were over?

Think $4\overline{)12}$. Write 3 in the quotient. Think 4×3. Write 12. Subtract 12 from 12. Do not write 0. Bring down 3. You cannot divide 3 by 4. Write 0 in the quotient. Write $r3$.

$$\begin{array}{r} 30r3 \\ 4\overline{)123} \\ \underline{12} \\ 3 \end{array}$$

There are 30 pieces for each box, and 3 pieces were left over. Proof: $4\times30+3=123$.

2. One day 430 boy scouts marched by 4's in a parade. How many rows did they make?

$4\overline{)4}=1$. $4\times1=4$. $4-4=0$. Do not write this 0. Bring down 3. You cannot divide 3 by 4. Write 0 in the quotient and bring down 0. $4\overline{)30}=7r2$. Write $7r2$. There were 107 rows and 2 scouts over.

$$\begin{array}{r} 107r2 \\ 4\overline{)430} \\ \underline{4} \\ 30 \\ \underline{28} \\ 2 \end{array}$$

3. Divide the following:

$6\overline{)243}$	$7\overline{)729}$	$8\overline{)644}$	$6\overline{)3617}$

Practice in Division

Divide, and prove:

1.	$4\overline{)816}$	$4\overline{)819}$	$3\overline{)921}$	$5\overline{)535}$	$2\overline{)619}$	$4\overline{)228}$
2.	$6\overline{)396}$	$6\overline{)620}$	$5\overline{)354}$	$4\overline{)835}$	$4\overline{)439}$	$5\overline{)515}$
3.	$5\overline{)813}$	$6\overline{)623}$	$4\overline{)479}$	$5\overline{)103}$	$7\overline{)721}$	$7\overline{)718}$
4.	$8\overline{)128}$	$8\overline{)165}$	$8\overline{)840}$	$8\overline{)835}$	$9\overline{)810}$	$9\overline{)909}$
5.	$9\overline{)918}$	$9\overline{)930}$	$9\overline{)276}$	$5\overline{)530}$	$4\overline{)839}$	$9\overline{)913}$
6.	$8\overline{)325}$	$4\overline{)837}$	$6\overline{)432}$	$5\overline{)454}$	$4\overline{)835}$	$7\overline{)149}$
7.	$4\overline{)1624}$	$5\overline{)4021}$	$3\overline{)2417}$	$4\overline{)2122}$	$3\overline{)1814}$	
8.	$9\overline{)46}$	$7\overline{)60}$	$8\overline{)70}$	$7\overline{)50}$	$9\overline{)55}$	$8\overline{)76}$
9.	$9\overline{)51}$	$7\overline{)55}$	$9\overline{)60}$	$7\overline{)52}$	$8\overline{)77}$	$9\overline{)56}$
10.	$7\overline{)51}$	$7\overline{)61}$	$9\overline{)47}$	$7\overline{)59}$	$8\overline{)73}$	$9\overline{)61}$
11.	$9\overline{)50}$	$8\overline{)87}$	$9\overline{)57}$	$7\overline{)54}$	$9\overline{)62}$	$8\overline{)74}$
12.	$9\overline{)58}$	$7\overline{)58}$	$8\overline{)71}$	$9\overline{)48}$	$6\overline{)55}$	$7\overline{)53}$
13.	$8\overline{)75}$	$7\overline{)52}$	$9\overline{)49}$	$7\overline{)62}$	$9\overline{)59}$	$8\overline{)79}$
14.	$9\overline{)53}$	$7\overline{)64}$	$8\overline{)73}$	$7\overline{)57}$	$9\overline{)52}$	$9\overline{)64}$

Multiply the following:

15.	$\begin{array}{r}382\\ \times\ 6\\ \hline\end{array}$	$\begin{array}{r}714\\ \times\ 9\\ \hline\end{array}$	$\begin{array}{r}900\\ \times\ 4\\ \hline\end{array}$	$\begin{array}{r}629\\ \times\ 7\\ \hline\end{array}$	$\begin{array}{r}418\\ \times\ 5\\ \hline\end{array}$	$\begin{array}{r}937\\ \times\ 8\\ \hline\end{array}$
16.	$\begin{array}{r}841\\ \times\ 7\\ \hline\end{array}$	$\begin{array}{r}640\\ \times\ 4\\ \hline\end{array}$	$\begin{array}{r}462\\ \times\ 8\\ \hline\end{array}$	$\begin{array}{r}369\\ \times\ 5\\ \hline\end{array}$	$\begin{array}{r}538\\ \times\ 9\\ \hline\end{array}$	$\begin{array}{r}419\\ \times\ 6\\ \hline\end{array}$

Some Uses of Large Numbers

Read the statements on this page.

1. In 1940 the population of the United States was 131,669,275. The number is read: 131 million 669 thousand 275. Tell what the periods in the number are and why the commas are used.

2. In 1940 the population of the six largest cities in the United States was as follows:

New York	7,454,995	Detroit	1,623,452
Chicago	3,396,808	Los Angeles	1,504,277
Philadelphia	1,931,334	Cleveland	878,336

New York is over twice as large as ___.
Chicago is about twice as large as ___.

3. The attendance at the World's Fair in Chicago in 1933–34 was 38,626,546.

4. In 1938 there were 19,842,744 pupils in the public grade schools of the United States, 6,269,723 in the public high schools, and 2,741,654 in other schools.

5. In a recent year there were 4,283,753 persons over the age of nine years in the United States who could neither read nor write.

6. In a recent year 4,482,340 pupils had $26,783,-610.41 in school savings banks.

7. In a recent year there were 29,705,220 automobiles in the United States.

8. In a recent year there were 42,677,948 automobiles in the whole world.

Mixed Practice

Add these numbers. Check your sums.

1.	957	891	94	87	616	428	857
	680	756	764	55	9	845	44
	39	82	66	978	27	766	6
	187	361	679	562	936	458	639
2.	26	743	615	63	574	858	944
	841	85	539	493	39	9	38
	512	56	856	961	54	73	657
	73	22	37	876	998	724	26
3.	68	69	94	84	71	30	11	43
	76	59	96	81	90	49	37	90
	40	71	52	57	22	88	53	44
	79	64	38	87	16	57	68	17

Divide the following. Prove your answers.

4.	$6\overline{)222}$	$6\overline{)543}$	$6\overline{)628}$	$7\overline{)504}$	$7\overline{)252}$	$7\overline{)299}$
5.	$5\overline{)425}$	$5\overline{)514}$	$6\overline{)326}$	$7\overline{)360}$	$8\overline{)112}$	$8\overline{)848}$
6.	$4\overline{)2832}$	$4\overline{)3619}$	$5\overline{)4530}$	$5\overline{)4018}$	$6\overline{)4836}$	
7.	$6\overline{)3027}$	$7\overline{)3556}$	$7\overline{)6320}$	$8\overline{)6416}$	$8\overline{)3210}$	

Subtract the following. Prove your answers.

8.	\$105.04	\$600.40	\$428.93	\$505.05	\$8.15
	86.75	79.85	267.58	95.75	6.28
9.	8129	7363	6403	6787	6704	6363
	5477	5669	3498	4909	2747	3636
10.	8730	7010	6005	8654	6700	9000
	928	3807	3096	1753	4938	2758

Unit 18. The Four Operations in Arithmetic

Review of the Words Used

Addition, subtraction, multiplication, and division are called the **four fundamental operations in arithmetic.**

Read, and give the missing numbers.

1. Addition. Numbers to be added are called **addends.** In the example at the right, __, __, and __ are the addends. The **sum** is __.
To check, add upward.

4
5
7
16

2. Subtraction. In the example at the right, __ is the **minuend,** __ is the **subtrahend,** and __ is the **remainder.**
Proof: __+__=506.

506
308
198

3. Multiplication. In the example at the right, __ is the **multiplicand,** __ is the **multiplier,** __ and __ are the partial products, and __ is the **product.**
To check the multiplication, __ again, or multiply the __ by the __.

46
25
230
92
1150

4. Division. In the example at the right, __ is the **divisor,** __ is the **dividend,** __ is the **quotient,** and __ is the **remainder.** To prove the division, multiply __ by __ and add __.

9r3
6)57

Sight Problems

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Write the answers.

1. Ruth put 6¢ in her savings bank each day for 9 days. How much did she put in the bank during these days?

2. My father bought 3 tires for $36. What was the price of each tire?

3. How many 7-cent marbles can I buy for 70¢?

4. Jane's lunch cost her 19¢. What was her change from a quarter?

5. Fred has 20¢. He needs 30¢ more to buy a knife. What is the price of the knife?

6. Frank has 29¢. How many 3-cent stamps can he buy? How many cents are left?

7. When milk sells at the rate of 7¢ a pint, what is the cost of 8 pints of milk?

8. Ray rode his bicycle 21 miles in 3 hours. What was his average speed per hour?

9. If I put 64 cabbage plants in 4 equal rows, how many plants should I put in each row?

10. If I earn $2 a week, how long will it take to earn $10?

11. If I earn $24 in 8 weeks, how much do I earn per week?

12. How much money do you need to buy 2 pounds of candy at 32¢ a pound?

Practice in Mixed Fundamentals

1. $\begin{array}{r} 6538 \\ -639 \\ \hline \end{array}$

2. $\begin{array}{r} 6434 \\ -3467 \\ \hline \end{array}$

3. $\begin{array}{r} 47 \\ 98 \\ 26 \\ 42 \\ 67 \\ \hline \end{array}$

4. $\begin{array}{r} 80 \\ 93 \\ 46 \\ 68 \\ 75 \\ \hline \end{array}$

5. $\begin{array}{r} 65 \\ 27 \\ 82 \\ 95 \\ 34 \\ \hline \end{array}$

6. $\begin{array}{r} \$17.40 \\ -4.86 \\ \hline \end{array}$

7. $\begin{array}{r} \$86.23 \\ -77.69 \\ \hline \end{array}$

8. $\begin{array}{r} 79 \\ \times 26 \\ \hline \end{array}$

9. $\begin{array}{r} 26 \\ \times 79 \\ \hline \end{array}$

10. $\begin{array}{r} 87 \\ \times 47 \\ \hline \end{array}$

11. $\begin{array}{r} 47 \\ \times 87 \\ \hline \end{array}$

12. $\begin{array}{r} 94 \\ \times 58 \\ \hline \end{array}$

13. $4\overline{)972}$

14. $3\overline{)279}$

15. $\begin{array}{r} 54 \\ 92 \\ 90 \\ 33 \\ \hline \end{array}$

16. $\begin{array}{r} 43 \\ 67 \\ 38 \\ 97 \\ \hline \end{array}$

17. $\begin{array}{r} 58 \\ 63 \\ 25 \\ 94 \\ \hline \end{array}$

18. $2\overline{)738}$

19. $5\overline{)485}$

20. $\begin{array}{r} 6848 \\ -2569 \\ \hline \end{array}$

21. $2\overline{)553}$

22. $4\overline{)417}$

23. $\begin{array}{r} 58 \\ \times 94 \\ \hline \end{array}$

24. $9\overline{)396}$

25. $7\overline{)571}$

26. $\begin{array}{r} 6113 \\ -4435 \\ \hline \end{array}$

27. $8\overline{)486}$

28. $6\overline{)507}$

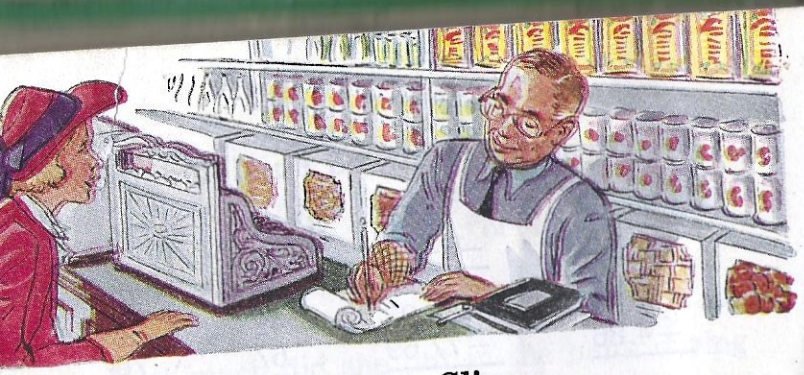
29. $\begin{array}{r} 89 \\ \times 63 \\ \hline \end{array}$

Problems without Numbers

1. If I know how far I can drive in one hour, how do I find the distance I can drive in several hours?

2. If I know how many days a man worked and how much he earned per day, how can I find the total of his earnings?

3. I know how much a man earned in three days. How can I tell how much he earned in one day?



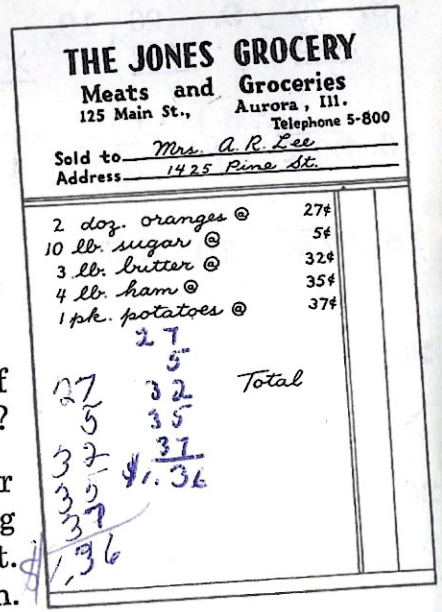
Making Sales Slips

1. Copy the sales ip. Find the cost of ach article.

2. Who did the buy-ng?

3. Where does she ive?

4. What is the cost of all of Mrs. Lee's articles?


THE JONES GROCERY
Meats and Groceries
125 Main St., Aurora, Ill.
Telephone 5-800
Sold to Mrs. A. R. Lee
Address 1425 Pine St.

2 doz. oranges @	27¢
10 lb. sugar @	5¢
3 lb. butter @	32¢
4 lb. ham @	35¢
1 pk. potatoes @	37¢

27
5
32
35
37
$1.36

Total

27
5
32
35
37
$1.36

Make a sales slip for each of the following and find the total cost. Use any names you wish.

5. 3 boxes berries @ 12¢
2 doz. lemons @ 36¢
3 loaves bread @ 9¢
6 lb. cabbage @ 4¢

6. 2 lb. lard @ 11¢
4 lb. chops @ 29¢
6 cans corn @ 14¢
2 doz. eggs @ 27¢

7. 7 washcloths @ 5¢
6 yd. ribbon @ 24¢
3 pr. stockings @ 69¢
2 doz. buttons @ 18¢
6 yd. lace @ 15¢

8. 4 ties @ 39¢
3 shirts @ 89¢
2 pr. shoes @ $3.75
2 sweaters @ $2.85
2 pr. gloves @ 95¢

Practice in Mixed Fundamentals

Take time for accurate work.

1. $\begin{array}{r} 96 \\ \times 26 \\ \hline \end{array}$
2. $\begin{array}{r} 58 \\ \times 45 \\ \hline \end{array}$
3. $3\overline{)645}$
4. $2\overline{)756}$
5. $\begin{array}{r} 5843 \\ -596 \\ \hline \end{array}$
6. $\begin{array}{r} 7686 \\ -3376 \\ \hline \end{array}$
7. $\begin{array}{r} 85 \\ 56 \\ 47 \\ 48 \\ 39 \\ \hline \end{array}$
8. $\begin{array}{r} 59 \\ 64 \\ 20 \\ 45 \\ 78 \\ \hline \end{array}$
9. $\begin{array}{r} 7574 \\ -2978 \\ \hline \end{array}$
10. $\begin{array}{r} 8533 \\ -3678 \\ \hline \end{array}$
11. $\begin{array}{r} 3204 \\ -1872 \\ \hline \end{array}$
12. $\begin{array}{r} 7497 \\ -5668 \\ \hline \end{array}$
13. $\begin{array}{r} 39 \\ \times 74 \\ \hline \end{array}$
14. $\begin{array}{r} 87 \\ \times 42 \\ \hline \end{array}$
15. $4\overline{)736}$
16. $\begin{array}{r} 54 \\ 32 \\ 67 \\ 49 \\ \hline \end{array}$
17. $\begin{array}{r} 87 \\ 52 \\ 67 \\ 35 \\ \hline \end{array}$
18. $\begin{array}{r} 78 \\ 97 \\ 84 \\ 24 \\ \hline \end{array}$
19. $\begin{array}{r} 49 \\ 85 \\ 99 \\ 35 \\ \hline \end{array}$
20. $2\overline{)938}$

Problems

Give the answer to each problem.

1. What is the cost of a 3-cent orange and a 6-cent bottle of milk?

2. If I buy a sandwich for 10¢, how much change should I get from a quarter?

3. If 3 tablets cost 18¢, what is the price of each tablet?

4. At 8¢ each, what is the cost of 4 melons?

5. How much do you pay for two apples if one costs 5¢ and the other 6¢?

Division with Remainder

Divide and prove:

1.	$9\overline{)25}$	$7\overline{)29}$	$9\overline{)71}$	$9\overline{)88}$	$9\overline{)70}$	$8\overline{)30}$	$9\overline{)82}$
2.	$9\overline{)78}$	$7\overline{)34}$	$9\overline{)66}$	$8\overline{)26}$	$9\overline{)83}$	$6\overline{)25}$	$9\overline{)77}$
3.	$6\overline{)29}$	$9\overline{)69}$	$8\overline{)27}$	$9\overline{)73}$	$7\overline{)33}$	$8\overline{)29}$	$9\overline{)68}$
4.	$9\overline{)84}$	$8\overline{)31}$	$9\overline{)79}$	$7\overline{)30}$	$9\overline{)76}$	$6\overline{)26}$	$9\overline{)75}$
5.	$9\overline{)74}$	$7\overline{)31}$	$9\overline{)65}$	$8\overline{)28}$	$9\overline{)80}$	$6\overline{)27}$	$9\overline{)67}$
6.	$7\overline{)32}$	$9\overline{)85}$	$6\overline{)28}$	$9\overline{)86}$	$6\overline{)31}$	$9\overline{)87}$	$9\overline{)89}$
7.	$5\overline{)215}$	$5\overline{)516}$	$5\overline{)311}$	$6\overline{)174}$	$6\overline{)243}$	$7\overline{)126}$	
8.	$8\overline{)848}$	$7\overline{)749}$	$6\overline{)290}$	$9\overline{)117}$	$8\overline{)107}$	$7\overline{)238}$	
9.	$7\overline{)260}$	$8\overline{)136}$	$7\overline{)273}$	$9\overline{)145}$	$6\overline{)504}$	$9\overline{)153}$	
10.	$9\overline{)217}$	$6\overline{)648}$	$9\overline{)542}$	$5\overline{)237}$	$9\overline{)209}$	$7\overline{)324}$	
11.	$7\overline{)317}$	$5\overline{)260}$	$8\overline{)976}$	$9\overline{)299}$	$6\overline{)348}$	$9\overline{)164}$	
12.	$9\overline{)388}$	$6\overline{)555}$	$9\overline{)225}$	$7\overline{)245}$	$6\overline{)444}$	$8\overline{)194}$	

Give the answer for each problem.

13. Twenty-four quarts of milk will make how many gallons?

14. Five gallons of milk will fill how many quart bottles?

15. Ben sold 8 quarts of berries for 48¢. What was the price per quart?

16. Jack wants to set out 4 rows of cabbage plants with 8 plants in each row. How many will he need?

Unit 19. Multiplication and Division

Zeros in Multiplication

1. Multiply 46 by 20.

Do not multiply by 0. Write 0 in the product as shown.

Multiply 46 by 2. Write 92 in the product. The product is 920.

46
20
920

2. Multiply 800 by 60.

There are three 0's at the right in 800 and 60. Write 000 in the product.

Think 6×8. Write 48 in the product, as shown. The product is 48,000.

800
60
48,000

3. Multiply \$724 by 603.

Multiply 724 by 3. Write 2172.
Multiply 724 by 6. Write 4344, as shown at the right. The answer is \$436,572.

\$724
603
2172
4344
\$436,572

Multiply the following:

4.	900	760	709	154	475	560
	70	80	76	808	400	600
5.	208	417	\$500	\$605	\$320	\$800
	90	45	40	700	60	52
6.	700	600	704	600	420	330
	70	24	502	100	110	800

Sight Problems

For each problem write on your paper A for add, for subtract, M for multiply, or D for divide. rite the answers.

1. What is the cost of a set of dishes at $4 and a ble at $9.75?

2. A suit that sells for $18 is how much cheaper an a suit that sells for $25?

3. One Saturday Ray worked 8 hours for 25¢ an our. How much did he earn?

4. Dick was paid 60¢ for 4 hours of work. How uch did he earn per hour?

5. At a speed of 7 miles per hour, how long will it ke a boat to go 49 miles?

6. A pair of $5 shoes was put on sale for $3.50. ow much had the price been reduced?

7. What is the average speed per hour of a boat hat goes 81 miles in 9 hours?

8. At 6¢ per pound, what is the cost of 10 pounds f sugar?

9. Frank's mother bought 3 chairs at $12.50 each. What was the cost of the chairs?

10. When 10 lb. of sugar are sold for 50¢, what is the rice per pound?

11. At 25¢ per pound, how many pounds of coffee an be bought for $1.00?

12. If I buy a bowl at the art store for 57¢, how nuch change should I get from 75¢?

Division with Remainder

Write the quotients and any remainders.

1.	$6\overline{)24}$	$6\overline{)57}$	$6\overline{)16}$	$6\overline{)41}$	$6\overline{)19}$	$6\overline{)14}$	$6\overline{)45}$
2.	$6\overline{)11}$	$6\overline{)46}$	$6\overline{)31}$	$6\overline{)40}$	$6\overline{)15}$	$6\overline{)35}$	$6\overline{)55}$
3.	$6\overline{)25}$	$6\overline{)33}$	$6\overline{)9}$	$6\overline{)58}$	$6\overline{)20}$	$6\overline{)18}$	$6\overline{)47}$
4.	$6\overline{)17}$	$6\overline{)37}$	$6\overline{)23}$	$6\overline{)56}$	$6\overline{)7}$	$6\overline{)59}$	$6\overline{)27}$
5.	$6\overline{)29}$	$6\overline{)13}$	$6\overline{)28}$	$6\overline{)52}$	$6\overline{)21}$	$6\overline{)51}$	$6\overline{)43}$
6.	$6\overline{)34}$	$6\overline{)8}$	$6\overline{)39}$	$6\overline{)44}$	$6\overline{)32}$	$6\overline{)16}$	$6\overline{)50}$
7.	$6\overline{)53}$	$6\overline{)26}$	$6\overline{)49}$	$6\overline{)22}$	$6\overline{)48}$	$6\overline{)38}$	$6\overline{)10}$
8.	$5\overline{)19}$	$4\overline{)30}$	$3\overline{)22}$	$5\overline{)38}$	$4\overline{)23}$	$5\overline{)44}$	$4\overline{)18}$

Problem Practice

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. In a certain fourth-grade room there are 7 chairs that cost $3.25 each. Find the cost.

2. There are 36 pupils' desks that cost $9.75 each. How much did the desks cost?

3. The maps in a certain room cost $27.50, and the books cost $15.85. What was the total cost of the maps and books?

4. At 46¢ a dozen, what do 7 doz. pencils cost?

5. Frank began on page 89 of his reader and read to page 156. How many pages did he read?

Division with Remainder

1. Mr. Allen made an automobile trip of 2875 miles in 6 days. Find the average number of miles per day.

In the last division, $6\overline{)55}$, at the right the remainder is 1. The answer is 479 miles per day and 1 mile over.
Proof: $6 \times 479 + 1 = 2875$.

$$\begin{array}{r} 479r1 \\ 6\overline{)2875} \\ 24 \\ \hline 47 \\ 42 \\ \hline 55 \\ 54 \\ \hline 1 \end{array}$$

2. Divide 2852 by 5.

In the last division, $5\overline{)2}$, at the right the quotient is 0, and the remainder is 2. The answer is 570*r*2. To prove, multiply 570 by 5 and then add the remainder 2.

$$\begin{array}{r} 570r2 \\ 5\overline{)2852} \\ 25 \\ \hline 35 \\ 35 \\ \hline 2 \end{array}$$

Divide and prove the following:

3.	$4\overline{)1144}$	$4\overline{)3037}$	$2\overline{)4557}$	$3\overline{)2952}$
4.	$4\overline{)3963}$	$5\overline{)4804}$	$7\overline{)4816}$	$6\overline{)7068}$
5.	$7\overline{)3645}$	$6\overline{)5982}$	$7\overline{)1800}$	$4\overline{)6312}$
6.	$6\overline{)2000}$	$5\overline{)1801}$	$7\overline{)5650}$	$3\overline{)3620}$
7.	$5\overline{)3017}$	$6\overline{)5000}$	$8\overline{)2042}$	$4\overline{)2035}$
8.	$2415 \div 4$	$4235 \div 9$	$3812 \div 6$	$5407 \div 7$
9.	$4922 \div 7$	$5632 \div 8$	$2851 \div 3$	$3874 \div 5$
10.	$4007 \div 5$	$5823 \div 6$	$3160 \div 8$	$9721 \div 8$

Add, Subtract, Multiply, or Divide?

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. The boy scouts took a walk of 12 miles into the country in 4 hours. How many miles per hour did they walk?

2. An airplane flew at a speed of 176 miles an hour for 8 hours. What distance did it fly?

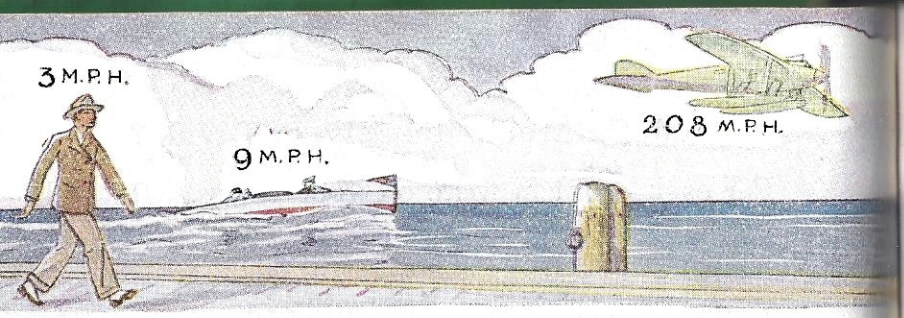
3. An express train traveled 477 miles in 9 hours. What was its speed per hour?

4. A fast airplane flew 1386 miles in 7 hours. What was its average speed per hour?

5. At a speed of 9 miles per hour, how long would it take a man to ride a bicycle 108 miles?

Division with Remainder

1.	$4\overline{)5}$	$4\overline{)32}$	$4\overline{)0}$	$4\overline{)7}$	$3\overline{)7}$	$4\overline{)28}$	$4\overline{)13}$
2.	$4\overline{)21}$	$4\overline{)34}$	$4\overline{)1}$	$4\overline{)26}$	$4\overline{)17}$	$4\overline{)31}$	$4\overline{)19}$
3.	$4\overline{)14}$	$4\overline{)6}$	$4\overline{)22}$	$4\overline{)12}$	$4\overline{)2}$	$4\overline{)24}$	$4\overline{)15}$
4.	$4\overline{)38}$	$4\overline{)27}$	$4\overline{)10}$	$4\overline{)9}$	$4\overline{)33}$	$4\overline{)35}$	$4\overline{)25}$
5.	$4\overline{)37}$	$4\overline{)3}$	$4\overline{)29}$	$4\overline{)18}$	$4\overline{)39}$	$4\overline{)23}$	$4\overline{)11}$
6.	$3\overline{)11}$	$3\overline{)23}$	$3\overline{)2}$	$3\overline{)19}$	$3\overline{)14}$	$3\overline{)0}$	$4\overline{)30}$
7.	$3\overline{)28}$	$3\overline{)10}$	$3\overline{)16}$	$3\overline{)4}$	$3\overline{)22}$	$3\overline{)1}$	$3\overline{)25}$
8.	$3\overline{)17}$	$3\overline{)5}$	$3\overline{)26}$	$3\overline{)13}$	$3\overline{)21}$	$3\overline{)8}$	$3\overline{)29}$



Speed, Time, and Distance

1. An airplane flew 208 miles an hour from California to Virginia in 11 hours. How far is this?

The problem tells you how fast the airplane flew, or its **speed.** It tells you how long it flew, or its **time.** It asks you to find how far it flew, or the **distance.**

Speed × time = distance

2. If a motorboat goes 9 miles an hour, how long will it take it to go 72 miles?

The problem tells the __ and the __ and asks for the __. The distance is __ miles. The speed is __ miles an hour. The time is __ hours.

Distance ÷ speed = __

3. If a man walked 15 miles in 5 hours, what was his speed?

The problem tells the __ and the __ and asks for the __. The distance was __ miles. The time was __ hours. The speed was __ miles an hour.

Distance ÷ time = __

Unit 20. Division with Remainder

Practice with Quotients

Divide the following. Prove your answers.

1.	7)26	7)52	7)64	7)8	7)47	7)54	7)40
2.	7)62	7)57	7)41	7)68	7)38	7)25	7)37
3.	7)22	7)36	7)24	7)66	7)9	7)61	7)20
4.	7)5	7)48	7)69	7)27	7)65	7)12	7)23
5.	7)50	7)10	7)39	7)19	7)34	7)6	7)30
6.	7)55	7)33	7)18	7)44	7)11	7)53	7)45
7.	7)67	7)17	7)51	7)32	7)13	7)59	7)29
8.	7)31	7)43	7)15	7)58	7)46	7)16	7)60
9.	6)462	6)411	5)267	5)243	4)274	6)656	
10.	8)212	7)112	5)475	7)518	6)387	7)338	
11.	6)320	7)343	8)152	7)388	6)117	8)225	
12.	7)4305	6)1900	5)3370	8)6416	9)4519		

Problems

1. The scouts had 222 boys in camp. Each tent held 6 boys. How many tents were needed?

2. A school lot measured 234 feet in length. How many yards long was the lot?

Sight Work

To multiply a number by 10, add a 0 to the number.
To multiply by 100, add two 0's to the number.

Write the answers on folded paper.

1.	10×10	10×25	10×50	100×25
2.	10×60	10×58	10×17	100×19
3.	10×35	10×11	10×90	100×10
4.	$\frac{1}{2}$ of 20	$\frac{1}{2}$ of 12	$\frac{1}{2}$ of 18	$\frac{1}{2}$ of 16
5.	$\frac{1}{4}$ of 20	$\frac{1}{3}$ of 12	$\frac{1}{3}$ of 18	$\frac{1}{4}$ of 16
6.	$\frac{1}{5}$ of 20	$\frac{1}{4}$ of 12	$\frac{1}{6}$ of 18	$\frac{1}{8}$ of 16
7.	$\frac{1}{10}$ of 20	$\frac{1}{8}$ of 32	$\frac{1}{10}$ of 80	$\frac{1}{5}$ of 25
8.	$\frac{1}{2}$ of 24	$\frac{1}{2}$ of 48	$\frac{1}{2}$ of 30	$\frac{1}{9}$ of 27
9.	$\frac{1}{3}$ of 24	$\frac{1}{3}$ of 48	$\frac{1}{3}$ of 30	$\frac{1}{4}$ of 32
10.	$\frac{1}{4}$ of 24	$\frac{1}{4}$ of 48	$\frac{1}{5}$ of 30	$\frac{1}{6}$ of 36
11.	$\frac{1}{6}$ of 24	$\frac{1}{6}$ of 48	$\frac{1}{6}$ of 30	$\frac{1}{5}$ of 40
12.	$\frac{1}{8}$ of 24	$\frac{1}{8}$ of 48	$\frac{1}{10}$ of 30	$\frac{1}{8}$ of 72

13. Change to nickels: 10¢, 15¢, 25¢, 35¢, 40¢.

14. How many quarters are there in 5 nickels? in 10 nickels? in 15 nickels? in 25 nickels?

15. Change to dollars: 10 dimes, 20 dimes, 50 dimes, 30 dimes, 40 dimes, 80 dimes.

16. Change to dimes: 10¢, 20¢, 40¢, 60¢, 80¢.

17. Change to dollars: 4 quarters, 8 quarters, 12 quarters.

Changing United States Money

Read, and give the missing numbers.

1. \$1.25 = __ dollar, __ dimes, and __ cents.

2. \$2.80 = __ dollars, __ dimes, and __ cents.

3. \$6.78 = __ dollars, __ dimes, and __ cents.

4. \$2.08 = __ dollars, __ dimes, and __ cents.

5. \$12.75 = __ dollars, __ dimes, and __ cents.

6. \$4.32 = __ dollars, __ dimes, and __ cents.

7. Two nickels and 7 cents = __ cents.

8. Two dimes and 1 nickel = __ cents.

9. One quarter and 1 nickel = __ cents.

10. Two quarters and 1 dime = __ cents.

11. One quarter, 1 dime, and 1 nickel = __¢.

12. One half dollar and 1 quarter = __¢.

Problems

1. Ellen's lunch cost 17¢. She gave the clerk 2 dimes. What was her change?

2. Fred bought marbles for 12¢ and gave the clerk 3 nickels. What was his change?

3. Jane's mother bought 23¢ worth of oatmeal. What was her change from 3 dimes?

4. Dick bought a cap for 60¢ and gave the clerk 3 quarters. What was his change?

5. Ben bought a fishing rod for 75¢ and gave the clerk 2 half dollars. What was his change?

Practice in Mixed Fundamentals

1.	937 − 189	655 − 469	1482 − 846	4731 − 847	6601 − 2689
2.	6128 − 1793	9544 − 3579	9373 − 4964	6724 − 2844	6403 − 4908
3.	94 × 46	46 × 94	78 × 64	64 × 78	289 × 307	607 × 508	870 × 560
4.	834 98 232 675	757 519 78 122	36 89 767 865	479 997 89 482	54 869 76 587	804 98 975 69
5.	5)475	6)496	7)399	8)232	6)593	9)245
6.	7)413	6)585	2)297	5)480	9)252	6)523
7.	7)408	5)497	9)318	6)536	7)444	8)300

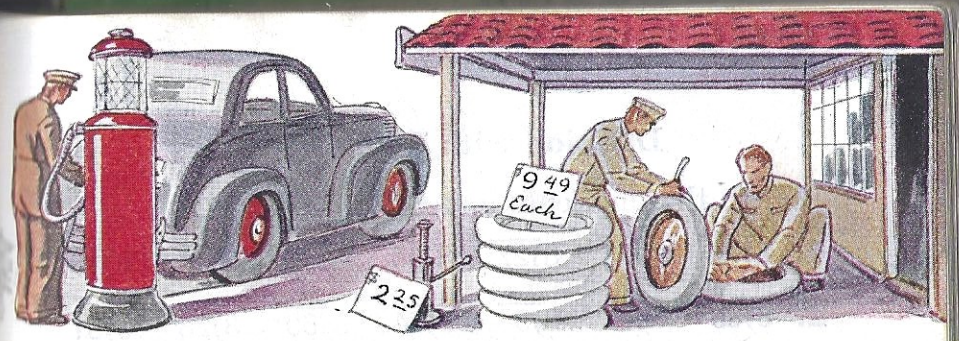
Problems

1. Alice bought a pair of shoes for $4.75, a hat for $2.15, and stockings for $1.95. How much did these cost?

2. Ruth is buying a suit for $8.94. How much change should she get from $10.00?

3. At 18¢ each, what is the cost of 4 boxes of berries?

4. Seven girls bought their lunches together and decided to share equally in the cost which was 98¢. What was each girl's share?



Automobile Problems

1. Mr. Brown paid $4.45 for 5 gallons of oil. What was the price per gallon?

$$\begin{array}{r} \$.89 \\ 5\overline{)\$4.45} \\ 40 \\ \hline 45 \\ 45 \end{array}$$

2. He bought 9 gallons of gasoline for $1.62. What was the price per gallon?

3. What is the cost of 4 tires at $9.49 each?

4. The garage sold Mr. Brown a jack for his car for $2.25. What was his change from a $5 bill?

5. Mr. Adams drives his car 16 miles on 1 gal. of gasoline. How far can he drive on 12 gal.?

6. At $7 a month, what is a year's garage rent?

7. Mr. Adams bought 4 tires for $48.60. What was the price of 1 tire?

8. Fred's father paid the garage man $15.85 for repairs, $14.50 for tires, and $1.75 for washing and cleaning his car. What was his bill?

9. Mr. Allen drove his car 376 miles in 8 hours. What was the average speed?

10. Mr. Wilson drove his car an average of 2400 miles a month. How far did he drive in a year?

Division with Remainder

Write the quotients and the remainders.

1.	$8\overline{)73}$	$8\overline{)59}$	$8\overline{)27}$	$8\overline{)50}$	$8\overline{)35}$	$8\overline{)66}$	$8\overline{)18}$
2.	$8\overline{)36}$	$8\overline{)19}$	$8\overline{)9}$	$8\overline{)74}$	$8\overline{)60}$	$8\overline{)28}$	$8\overline{)51}$
3.	$8\overline{)67}$	$8\overline{)29}$	$8\overline{)38}$	$8\overline{)17}$	$8\overline{)34}$	$8\overline{)68}$	$8\overline{)13}$
4.	$8\overline{)10}$	$8\overline{)37}$	$8\overline{)57}$	$8\overline{)23}$	$8\overline{)39}$	$8\overline{)42}$	$8\overline{)53}$
5.	$8\overline{)30}$	$8\overline{)61}$	$8\overline{)69}$	$8\overline{)22}$	$8\overline{)20}$	$8\overline{)41}$	$8\overline{)75}$
6.	$8\overline{)11}$	$8\overline{)70}$	$8\overline{)62}$	$8\overline{)31}$	$8\overline{)63}$	$8\overline{)78}$	$8\overline{)54}$
7.	$8\overline{)21}$	$8\overline{)55}$	$8\overline{)14}$	$8\overline{)46}$	$8\overline{)25}$	$8\overline{)76}$	$8\overline{)44}$
8.	$8\overline{)33}$	$8\overline{)49}$	$8\overline{)15}$	$8\overline{)58}$	$8\overline{)77}$	$8\overline{)52}$	$8\overline{)79}$

9.	$7\overline{)\$5.95}$	$9\overline{)\$3.24}$	$8\overline{)\$3.76}$	$7\overline{)\$17.99}$
10.	$6\overline{)\$6.26}$	$7\overline{)\$6.93}$	$8\overline{)\$6.80}$	$7\overline{)\$44.73}$
11.	$7\overline{)\$6.02}$	$8\overline{)\$3.76}$	$9\overline{)\$3.33}$	$8\overline{)\$38.00}$
12.	$8\overline{)\$4.56}$	$9\overline{)\$6.66}$	$7\overline{)\$4.55}$	$9\overline{)\$67.77}$
13.	$9\overline{)\$4.05}$	$8\overline{)\$7.08}$	$7\overline{)\$6.79}$	$8\overline{)\$52.64}$
14.	$8\overline{)\$7.84}$	$7\overline{)\$4.69}$	$9\overline{)\$6.03}$	$7\overline{)\$65.94}$
15.	$806 \div 3$	$5001 \div 6$	$4307 \div 5$	$9503 \div 7$
16.	$467 \div 8$	$7041 \div 9$	$8563 \div 8$	$3005 \div 4$
17.	$750 \div 7$	$6336 \div 7$	$4555 \div 6$	$5400 \div 8$
18.	$675 \div 5$	$9617 \div 8$	$6777 \div 9$	$4000 \div 3$

Fifth Self-Test

Mixed Test

Find the answers:

1. 39 11 63 50	**2.** 45 26 70 47	**3.** 84 46 78 66	**4.** 69 64 37 46	**5.** $4\overline{)148}$ **6.** $7\overline{)168}$
7. 4219 −1423	**8.** 89 ×46	**9.** 93 ×37	**10.** 6534 −3030	
11. 5563 −674	**12.** 39102 −5879	**13.** 79 ×36	**14.** 96 ×79	
15. 74 99 72 29	**16.** 45 36 78 90	**17.** $5\overline{)425}$ **19.** 2582 −1876	**18.** $6\overline{)262}$ **20.** 6044 −4847	

Sight Problems

1. Helen bought a dozen oranges for 35¢ and gave the clerk 50¢. Her change was ___¢.

2. Jack's father rented a boat 4 hours for 80¢. The rent was ___¢ an hour.

3. Ida bought a book for 65¢. Her change from a half dollar and a quarter was ___¢.

4. At a speed of 9 miles an hour, a boat will go ___ miles in 8 hours.

5. When the price of lemons is 40¢ a dozen, 6 dozen will cost $___.

Problem Test

Give the answer to each problem.

1. At 20¢ a can, what is the cost of 5 cans of cherries?

2. Twelve boys went on a camping trip. The trip cost each boy $7.25. What was the total cost of the trip?

3. Ray set 84 tomato plants, 4 in a row. How many rows of plants did he have?

4. Six girls went on a camping trip. The cost of the trip was $54. What was each girl's share of the cost?

5. A hardware store sells camp stools for $1.25 each. What is the cost of 6 camp stools?

6. When 6 cans of peaches are sold for $1.20, what is the price of 1 can?

7. Fred has a kite string 300 ft. long. How many yards long is his string?

8. A certain man's pay is $8.70 a day. How much does he earn in 27 days? How much does he earn in a 6-day week?

Test in Multiplication

Multiply and check:

1.	94	86	17	69	48	56	86
	46	73	89	65	45	48	52
2.	53	57	49	43	79	28	67
	89	67	87	62	54	98	74

Unit 21. New Work in Division

A Short Cut in Division

1. The plan of work at the right is called **long division.** In this plan all the results of multiplying, subtracting, and bringing down are written below the dividend.

```
  45
3)135
 12
 --
  15
  15
 --
```

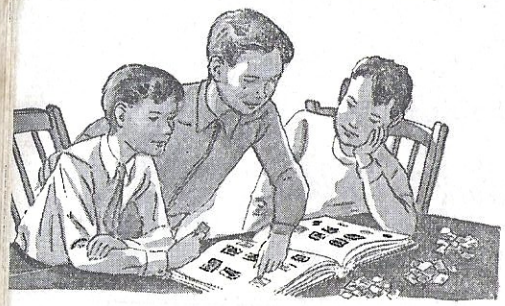
2. The plan of work at the right is called **short division.** With a little practice you can soon learn to divide by short division. Use the same steps that you use in long division.

```
  45
3)135
```

Think $3\overline{)13}$. Write 4. Think $3 \times 4 = 12$. $13 - 12 = 1$. Use the remainder 1 with 5 to make 15. Think $3\overline{)15}$. Write 5. Think $15 - 15$.

Divide the following. Prove your answers.

3.	$2\overline{)58}$	$3\overline{)72}$	$4\overline{)72}$	$5\overline{)85}$	$6\overline{)96}$	$2\overline{)96}$	$5\overline{)65}$
4.	$3\overline{)84}$	$4\overline{)96}$	$6\overline{)78}$	$7\overline{)98}$	$8\overline{)96}$	$5\overline{)95}$	$7\overline{)91}$
5.	$5\overline{)75}$	$6\overline{)84}$	$4\overline{)68}$	$3\overline{)87}$	$7\overline{)84}$	$6\overline{)78}$	$3\overline{)51}$
6.	$3\overline{)105}$	$4\overline{)116}$	$5\overline{)140}$	$6\overline{)102}$	$6\overline{)156}$	$5\overline{)305}$	
7.	$4\overline{)144}$	$3\overline{)144}$	$5\overline{)195}$	$6\overline{)228}$	$7\overline{)126}$	$8\overline{)136}$	
8.	$2\overline{)154}$	$4\overline{)180}$	$3\overline{)204}$	$5\overline{)290}$	$6\overline{)210}$	$7\overline{)105}$	
9.	$9\overline{)117}$	$7\overline{)308}$	$6\overline{)348}$	$8\overline{)144}$	$5\overline{)435}$	$6\overline{)354}$	



Short Division

1. Three boys tried to divide 145 stamps equally among themselves. How many stamps did each boy get?

Each boy got 48 stamps with 1 stamp remaining. To prove the answer, multiply 48 by 3 and add 1.

$$3\overline{)145}\quad 48\,r1$$

To prove division with remainder, multiply the quotient by the divisor and add the remainder. The result should equal the dividend.

2. Give the steps in each example below:

$4\overline{)278}\quad 69\,r2$ $\qquad$ $6\overline{)403}\quad 67\,r1$ $\qquad$ $5\overline{)527}\quad 105\,r2$ $\qquad$ $8\overline{)333}\quad 41\,r5$

Divide the numbers below. Prove answers.

3.	$5\overline{)345}$	$4\overline{)372}$	$3\overline{)288}$	$2\overline{)612}$	$3\overline{)233}$	$4\overline{)218}$
4.	$7\overline{)750}$	$6\overline{)280}$	$3\overline{)100}$	$4\overline{)277}$	$6\overline{)200}$	$7\overline{)133}$
5.	$3\overline{)290}$	$4\overline{)333}$	$5\overline{)605}$	$6\overline{)410}$	$7\overline{)440}$	$8\overline{)833}$
6.	$9\overline{)927}$	$5\overline{)446}$	$6\overline{)290}$	$7\overline{)189}$	$8\overline{)200}$	$9\overline{)108}$
7.	$3\overline{)172}$	$6\overline{)314}$	$7\overline{)400}$	$5\overline{)398}$	$6\overline{)437}$	$4\overline{)392}$
8.	$5\overline{)327}$	$6\overline{)453}$	$7\overline{)263}$	$8\overline{)128}$	$6\overline{)111}$	$5\overline{)387}$
9.	$9\overline{)981}$	$7\overline{)514}$	$6\overline{)398}$	$3\overline{)250}$	$4\overline{)399}$	$8\overline{)435}$
10.	$5\overline{)307}$	$4\overline{)803}$	$9\overline{)307}$	$8\overline{)736}$	$7\overline{)933}$	$6\overline{)434}$

Solving Problems

Decide whether you should add, subtract, multiply, or divide. Then work the problems.

1. If an automobile travels 120 miles in 3 hours, what is the speed per hour?

2. A fast electric train traveled 348 miles in 6 hours. Find the average speed per hour.

3. If 15 slices can be cut from 1 loaf of bread, how many can be cut from 4 loaves?

4. What is the cost of 3 gallons of maple sirup at $2.79 per gallon?

5. A farmer bought 4 pigs for $20. Find the average price of these pigs.

6. A farmer sold 7 cows for $392. What was the average price of these cows?

7. Frank sold 14 hens at 65¢ each. How much did he receive for the hens?

8. A farmer sold 487 bushels of corn at 36¢ a bushel. How much did he get?

$$\begin{array}{r} 487 \\ \times 36 \end{array}$$

9. Our car has been driven 5672 miles. How far will it have gone if we drive 375 miles today?

10. After driving his new car 4091 miles, Mr. Ellis started on a trip. When he returned, the car had gone 4504 miles. How long was the trip?

11. When the price of wheat is 67¢ a bushel, how much will a farmer get for 960 bushels of wheat?

12. If 6 acres cost $960, what does 1 acre cost?

Review of Column Addition

1. Add 8, 7, 9, 3, and 6.

Begin at the top of the column. Think 15, 24, 27, 33. Write 33. To check, add upward. Think 9, 18, 25, 33.

8
7
9
3
6
33

Practice until you can add up or down a column quickly and correctly.

Find the sum of the addends and check:

2.

8	4	3	6	3	4	5	3	7
1	7	1	5	5	2	5	8	4
4	9	9	9	1	6	6	9	9
2	8	4	7	9	8	6	8	8
6	5	8	8	2	3	7	4	8

3.

37	16	24	86	45	84	34	73
29	61	64	57	88	27	45	25
82	78	56	75	30	62	23	45
64	87	49	88	64	85	64	47
12	96	97	48	76	73	15	53

4.

64	759	476	46	8	572
587	46	858	5	59	849
968	674	95	78	743	364
7	58	67	927	75	793
55	703	654	69	467	658

5. $8+47+659+836+767=\_\_?$

6. What is the sum of 58, 63, 748, 39, and 7?

7. What is the sum of 9, 76, 82, 29, and 4?

8. Find the sum of 6, 3, 8, 9, and 15.

Should You Multiply or Divide?

For each problem write on your paper M for multiply or D for divide. Find the answers.

1. A man is paid $10.00 for 8 hours' work. How much does he earn per hour?

2. Ray earned $2.85 in 5 hours. How much did he earn on an average per hour?

3. Jane paid $1.62 for 6 handkerchiefs of the same price. Find the price of each.

4. Mr. Brown paid $32.65 a month on his auto for a year. What was the total amount he paid?

5. One summer Dick saved $12.50 in 5 weeks. How much did he save on an average per week?

6. If you save 25¢ a week, how much will you save in 15 weeks?

7. If 768 children march in 4 equal lines, how many children are there in each line?

Division with Remainder

1.	$7\overline{)574}$	$4\overline{)328}$	$5\overline{)337}$	$8\overline{)328}$	$6\overline{)187}$	$4\overline{)297}$
2.	$5\overline{)249}$	$3\overline{)265}$	$8\overline{)530}$	$9\overline{)819}$	$7\overline{)623}$	$6\overline{)447}$
3.	$8\overline{)225}$	$6\overline{)580}$	$7\overline{)618}$	$7\overline{)331}$	$8\overline{)304}$	$7\overline{)357}$
4.	$4\overline{)471}$	$6\overline{)543}$	$8\overline{)500}$	$7\overline{)329}$	$7\overline{)686}$	$8\overline{)247}$
5.	$6\overline{)566}$	$7\overline{)660}$	$8\overline{)150}$	$7\overline{)600}$	$8\overline{)632}$	$5\overline{)349}$
6.	$4\overline{)729}$	$8\overline{)104}$	$6\overline{)438}$	$9\overline{)217}$	$7\overline{)492}$	$3\overline{)101}$
7.	$8\overline{)498}$	$5\overline{)705}$	$4\overline{)824}$	$6\overline{)350}$	$9\overline{)600}$	$7\overline{)888}$

Division with Remainder

1.	$9\overline{)46}$	$9\overline{)69}$	$9\overline{)25}$	$9\overline{)59}$	$9\overline{)10}$	$9\overline{)53}$	$9\overline{)32}$
2.	$9\overline{)70}$	$9\overline{)44}$	$9\overline{)83}$	$9\overline{)33}$	$9\overline{)73}$	$9\overline{)39}$	$9\overline{)17}$
3.	$9\overline{)82}$	$9\overline{)16}$	$9\overline{)64}$	$9\overline{)77}$	$9\overline{)38}$	$9\overline{)24}$	$9\overline{)48}$
4.	$9\overline{)26}$	$9\overline{)55}$	$9\overline{)79}$	$9\overline{)11}$	$9\overline{)52}$	$9\overline{)60}$	$9\overline{)43}$
5.	$9\overline{)80}$	$9\overline{)74}$	$9\overline{)87}$	$9\overline{)58}$	$9\overline{)71}$	$9\overline{)15}$	$9\overline{)37}$
6.	$9\overline{)62}$	$9\overline{)13}$	$9\overline{)47}$	$9\overline{)75}$	$9\overline{)28}$	$9\overline{)57}$	$9\overline{)65}$
7.	$9\overline{)50}$	$9\overline{)34}$	$9\overline{)76}$	$9\overline{)20}$	$9\overline{)42}$	$9\overline{)78}$	$9\overline{)89}$
8.	$9\overline{)41}$	$9\overline{)22}$	$9\overline{)86}$	$9\overline{)23}$	$9\overline{)68}$	$9\overline{)12}$	$9\overline{)51}$
9.	$9\overline{)85}$	$9\overline{)40}$	$9\overline{)19}$	$9\overline{)56}$	$9\overline{)31}$	$9\overline{)29}$	$9\overline{)66}$
10.	$9\overline{)67}$	$9\overline{)88}$	$9\overline{)61}$	$9\overline{)35}$	$9\overline{)49}$	$9\overline{)84}$	$9\overline{)21}$

Problems

1. Three boys earned \$4.50 cleaning off the snow. If they share alike, what should each boy get?

2. Five boys bought a tent for \$8.45. If they share the cost equally, what should each boy pay?

3. A man drove 305 miles on the first day of a trip and 419 miles the second day. How much farther did he travel the second day than the first?

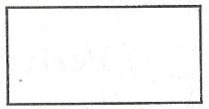
4. A grocer bought 56 dozen cans of fruit. How many cans of fruit did he buy?

5. The school board bought 48 chairs at \$4.56 each. How much did these chairs cost?

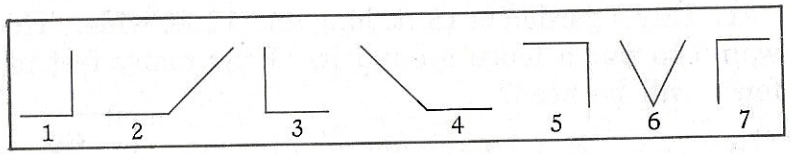
Unit 22. Rectangles, Triangles, and Circles

Rectangles and Squares

A **rectangle** has four straight sides and four square corners. The square corners are called **right angles.**



1. Tell which of these angles are right angles:



2. Draw a rectangle 1 in. wide and 2 in. long; a rectangle 4 in. long and 3 in. wide.

3. Doors and rugs are examples of rectangles. See how many things you can find which are rectangles. Make a list of them.

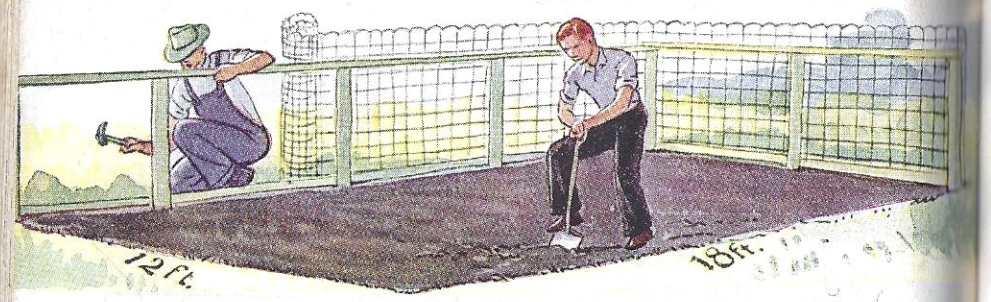
This rectangle is called a **square** because its four sides are equal.

4. How many right angles are there in a square?

5. Measure each side of the square with your ruler. This square is called a 1-inch square.

6. Draw a square with each side 2 in. long. This is called a 2-inch square.

7. Draw a 3-inch square; a 4-inch square.



Perimeter of a Square or Rectangle

The distance around a rectangle or a square is called the **perimeter.**

1. Ray's garden is 18 ft. long and 12 ft. wide. He wants to put a fence around it. How many feet of fence will he need?

2. At 8¢ a foot, what will it cost to put a fence around Ray's garden? Explain each step in the problem.

$$\begin{array}{r} 60 \\ \times 8 \\ \hline \end{array}$$

3. Draw a 3-inch square. What is the length of each side? Find the perimeter.

4. What is the perimeter of a lot that measures 135 ft. long and 75 ft. wide?

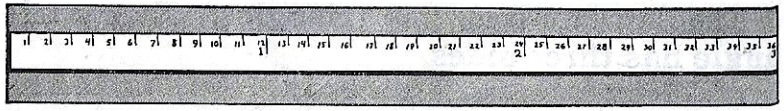
5. Draw a rectangle 3 in. long and 2 in. wide. What is its perimeter?

6. Draw a 2-inch square; a 4-inch square; a 6-inch square. Find the perimeter of each of the three squares.

7. Find the perimeter of your schoolroom.

8. Find the perimeter of your school ground in yards.

Reading the Yardstick



Here is a picture of a yardstick. The real yardstick is much larger than the picture.

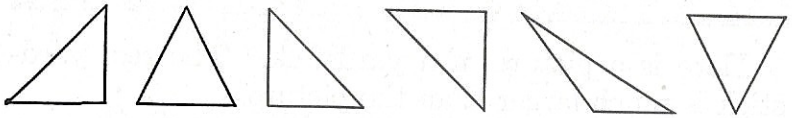
Use a yardstick to help you find the missing numbers. Write the missing numbers on your paper.

1.	1 yd. = ___ ft.	1 yd. = ___ in.	$\frac{1}{3}$ yd. = ___ ft.
2.	$\frac{1}{3}$ yd. = ___ in.	$1\frac{1}{3}$ yd. = ___ ft.	$\frac{1}{2}$ yd. = ___ in.
3.	$\frac{1}{4}$ yd. = ___ in.	$\frac{1}{2}$ yd. = ___ in.	$\frac{1}{9}$ yd. = ___ in.
4.	1 ft. = ___ in.	$\frac{1}{2}$ ft. = ___ in.	$1\frac{1}{2}$ ft. = ___ in.
5.	$1\frac{1}{2}$ yd. = ___ in.	$\frac{1}{2}$ yd. = ___ ft.	$2\frac{1}{2}$ ft. = ___ in.
6.	$\frac{1}{3}$ ft. = ___ in.	$\frac{1}{4}$ ft. = ___ in.	$\frac{1}{6}$ ft. = ___ in.

7.	1 ft. 6 in. = ___ in.	2 ft. 10 in. = ___ in.
8.	1 ft. 3 in. = ___ in.	1 ft. 4 in. = ___ in.
9.	1 ft. 2 in. = ___ in.	1 ft. 8 in. = ___ in.
10.	1 ft. 1 in. = ___ in.	1 ft. 9 in. = ___ in.
11.	1 ft. 5 in. = ___ in.	1 ft. 7 in. = ___ in.
12.	1 ft. 10 in. = ___ in.	1 ft. 11 in. = ___ in.
13.	2 ft. 6 in. = ___ in.	2 ft. 4 in. = ___ in.
14.	2 ft. 3 in. = ___ in.	2 ft. 8 in. = ___ in.
15.	18 in. = ___ ft. ___ in.	15 in. = ___ ft. ___ in.
16.	17 in. = ___ ft. ___ in.	20 in. = ___ ft. ___ in.
17.	30 in. = ___ ft. ___ in.	27 in. = ___ ft. ___ in.
18.	34 in. = ___ ft. ___ in.	33 in. = ___ ft. ___ in.

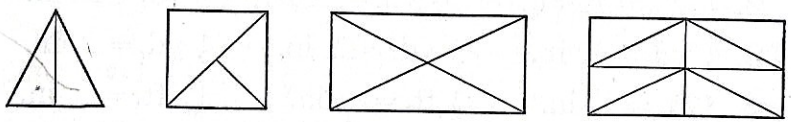
Triangles and Circles

The drawings below are **triangles. Every triangle has three sides.**

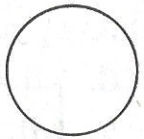


1. Draw several triangles.

2. Tell how many triangles there are in each of the drawings below.



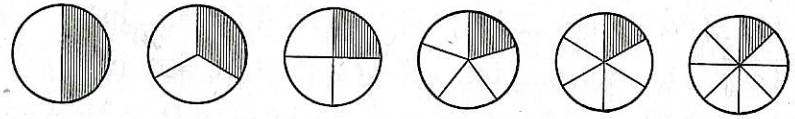
The drawing at the right is a **circle.** A pair of compasses may be used to draw a circle.



3. Draw four circles and measure the distance through the center of each.

4. Wheels and coins are circles. Name as many things as you can which are circles.

5. In each circle below, tell what part of the circle is shaded.



6. Tell what part of each square is shaded.

Division with Remainder

Divide the following. Prove your answers.

1.	4)9	5)21	4)34	4)6	5)41	5)33	5)18
2.	5)46	4)14	5)24	4)33	5)28	5)49	5)12
3.	5)36	4)11	5)9	4)23	5)32	4)38	5)17
4.	4)39	5)26	5)48	5)37	4)19	5)7	5)39
5.	5)29	4)18	4)27	5)13	4)37	5)43	4)10
6.	4)25	5)19	5)44	4)29	5)22	5)38	5)16
7.	4)13	5)8	4)35	5)31	5)42	4)26	5)34
8.	5)47	5)14	5)27	4)22	5)11	4)17	5)23
9.	5)135	4)350	5)543	6)613	5)229	4)277	
10.	6)649	4)836	5)288	3)290	8)541	6)218	
11.	5)360	6)450	8)392	6)474	5)347	9)261	
12.	7)763	8)426	6)526	7)677	9)353	6)591	
13.	9)398	6)355	8)518	6)500	7)530	9)111	
14.	8)127	7)483	9)103	9)504	8)470	9)235	
15.	4)$7.32	5)$3.35	6)$4.06	7)$5.25	8)$2.36		
16.	6)$2.22	8)$5.52	3)$2.97	8)$5.76	9)$2.52		
17.	4)$10.48	5)$21.75	6)$42.48	8)$40.32			
18.	6)$39.00	8)$66.48	5)$70.05	6)$24.66			

Problems in Weights

1. How many ounces does one fourth of a pound of butter weigh? one-half pound? one eighth of a pound?

2. When a can holds 1 lb. 4 oz. of peaches, how many ounces do the peaches weigh?

3. A 10-ounce loaf of bread weighs how many ounces less than a 1-pound loaf?

4. How many pounds of coal equal $\frac{1}{2}$ ton? $\frac{1}{4}$ ton? $1\frac{1}{2}$ tons? 2 tons?

5. An automobile weighing 3785 pounds weighs how many pounds more than a ton?

6. A bushel of wheat weighs 60 pounds. What is the weight of 156 bushels of wheat?

7. At 80¢ per pound, what will $\frac{1}{4}$ lb. of chocolate candy cost?

8. What will $\frac{1}{2}$ lb. of bananas cost at 28¢ a pound?

Practice in Division

1.	6)858	4)1764	7)1694	3)2718	5)4205
2.	7)3963	6)5180	4)2638	7)4375	8)6564
3.	6)4784	3)1375	7)6426	6)5449	4)3950
4.	5)3563	6)9966	7)3269	4)2726	2)1816
5.	6)5452	4)2215	7)6559	3)2894	6)4837
6.	7)4466	2)1714	6)2145	9)2187	4)3810

Unit 23. Division with Remainder

Practice for Correct Answers

Divide and prove:

1.	7)4697	3)5063	6)9498	8)6675	9)4146
2.	6)3775	7)6433	3)2835	9)4249	8)5897
3.	7)6753	6)3948	4)1443	8)7473	9)8000
4.	7)1099	5)2240	7)1683	8)7976	9)4440
5.	6)1357	7)6111	7)5488	9)4947	8)7584

Sight Problems

1. At 12¢ a quart, what will one gallon of milk cost?

2. At 21¢ a pint, what is the cost of 1 qt. of cream?

3. One gallon and 3 quarts of cream are how many quarts?

4. One quart and 1 pint of cream will make how many pints?

5. How many quart bottles will a milkman need to hold 17 gallons of milk?

6. When potatoes sell at 30¢ a peck, what will 1 bushel of potatoes cost?

7. A piece of board is 1 ft. 6 in. long. How many inches long is the board?

Finding Mistakes in Division

1. Divide 1583 by 4.

$$4\overline{)1583} \quad 395r3$$

You can prove the answer at the right without writing the numbers again. Multiply 395 by 4 and add 3. Think $4\times5+3=23$. Check 3 in the dividend and carry 2. Think $4\times9+2=38$. Check 8 and carry 3. Think $4\times3+3=15$. Check 15.

Not all the answers below are right. Prove the division to find which answers are right. Then correct the wrong answers.

2.	$9\overline{)277}$ 25r2	$8\overline{)298}$ 38r2	$7\overline{)516}$ 73r6	$6\overline{)409}$ 68r1
3.	$8\overline{)700}$ 87r4	$9\overline{)817}$ 90r7	$9\overline{)333}$ 37r2	$8\overline{)171}$ 21r3

Divide the following. Prove your answers.

4.	$7\overline{)1487}$	$9\overline{)4286}$	$8\overline{)7159}$	$9\overline{)5150}$	$9\overline{)5806}$
5.	$8\overline{)6353}$	$7\overline{)4600}$	$9\overline{)6159}$	$9\overline{)8603}$	$9\overline{)7506}$
6.	$9\overline{)8825}$	$8\overline{)7029}$	$7\overline{)6087}$	$6\overline{)4001}$	$9\overline{)7704}$
7.	$9\overline{)6897}$	$8\overline{)6279}$	$9\overline{)4815}$	$9\overline{)5211}$	$9\overline{)8910}$
8.	$9\overline{)6288}$	$8\overline{)6932}$	$9\overline{)7982}$	$4\overline{)7185}$	$9\overline{)8975}$
9.	$8\overline{)2587}$	$9\overline{)7776}$	$9\overline{)8540}$	$9\overline{)7511}$	$9\overline{)6904}$

Find the answers for the examples below:

10.	$6334\div7$	$\$7.56\div6$	$\$72.24\div8$	$\$29.05\div7$
11.	260×500	191×45	860×79	94×86

Problem Practice

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. Mr. Jones set out 16 rows of rose bushes with 64 bushes in each row. How many bushes did he set out?

2. A park containing 9 acres was bought for $3825. What was the price per acre?

3. Each of 4 automobiles carried 7 people to a picnic. How many people were in the party?

4. A fruit grower sold apples at 39¢ a peck. How much did he get per bushel?

5. After buying a knife for 69¢, what change should Jack get from a $1 bill?

Mixed Practice

Take time for correct work.

1.

23	76	68	81	68	87	76	74
16	45	53	68	86	35	89	27
78	42	94	41	76	19	62	39
51	49	41	54	39	37	75	83
97	86	78	63	68	70	55	78

2.

$82.12	$734.39	$75.97	$4.46	$2.07
−9.87	−149.06	−68.01	−2.97	−1.48

3.

$83.24	$626.36	$955.15	$844.51	$4.10
−52.68	−57.70	−146.49	−645.81	−.75

4. $6\overline{)4184}$ $8\overline{)5443}$ $7\overline{)4185}$ $9\overline{)5000}$ $7\overline{)4000}$

Mixed Practice

Find the answers.

1.

76	73	49	63	68	72	99	48
87	41	29	22	87	79	88	53
61	85	83	49	95	39	66	64
88	69	60	27	39	34	94	95
44	94	35	63	69	56	14	37

2.

$933.11	$540.13	$82.13	$412.51	$8.37
−553.33	−69.15	−25.34	−24.67	−1.58

3.

$982.15	$474.12	$52.73	$851.43	$1.01
−302.76	−78.24	−38.94	−56.78	−.99

4.

204	650	748	780	907	5800
×79	×80	×46	×600	×89	×760

5. 9+6+8+7+5 54+9+78+57+657

Problems

1. There were 160 girls in the girl-scout camp last summer. If 8 girls used one tent, how many tents were needed at the camp?

2. At wages of $6.80 per day, how much will a man earn in 27 days?

3. Three boys broke a window costing $4.80. What was each boy's share of the cost?

4. If a man owes $130 and pays $5 a week, how many weeks will it take him to pay this amount?

5. What is the perimeter of a room 36 ft. long and 25 ft. wide?

Practice for Accurate Work

Divide. Prove your answers.

1.	9)704	8)306	9)8987	8)8819	8)2989
2.	6)570	6)423	9)6046	8)8977	9)1075
3.	7)320	8)217	9)4896	8)3048	8)6985
4.	5)549	6)544	9)7391	9)9304	8)5933
5.	6)500	7)801	9)6944	9)8360	9)2143
6.	4)147	6)824	8)7713	9)1192	9)6269
7.	7)950	8)875	8)7957	9)3506	7)5127
8.	6)711	8)905	9)4283	8)5119	9)7849
9.	7)200	9)813	6)5385	9)8807	8)5037

Problems

1. A farmer bought 45 acres of land at $85 per acre. How much did he pay for the land?

2. This farmer sold a strip of land containing 8 acres for $1000. What was the price per acre?

3. Ray was born in the year 1927. In what year will he be 25 years old?

4. A lot cost $1250, and the house on it cost $6500. How much did both cost?

5. When three pairs of stockings sell for $3.60, what is the price per pair?

6. How far will a train which travels 40 miles per hour go in 7 hours?

Sight Problems

For each problem tell whether you add, subtract, multiply, or divide. Give the missing numbers.

1. Fred bought $\frac{1}{2}$ dozen oranges. The grocer put __ oranges in a bag for Fred.

2. Charlotte had 20¢. At 4¢ each, she can buy __ apples with her money.

3. Jack drew a line $\frac{1}{3}$ of a foot long. His line is __ inches long.

4. When coffee sells at 3 pounds for 81¢, the price per pound is __¢.

5. To find $\frac{1}{2}$ of 12, you divide 12 by __.

6. Four boys divided 36 stamps equally. Then each boy had __ stamps.

7. If 4 tons of coal cost $24, the price per ton is $__.

8. Ben cut a piece of rope 18 feet long into 3 pieces of equal length. Each piece was __ feet long.

9. Frank has a ruler that is $1\frac{1}{2}$ feet long. His ruler is __ inches long.

10. At 40¢ per pound, __ pounds of butter can be bought for $1.60.

11. The average speed of a train that travels 200 miles in 4 hours is __ miles per hour.

12. Ben bought 5 quarts of milk. This milk would fill __ pint bottles.

Unit 24. Problems with Two Steps

Two Operations in One Problem

Each problem on this page has two steps. Read the problem to find each step. For each step write on your paper A if you should add or S if you should subtract. Then work the problems.

1. Ray had 20¢. He paid 5¢ for a candy bar and 6¢ for a top. How many cents were left?

Step 1. Add 5¢ and 6¢ to find how much Ray spent.

Step 2. Subtract 11¢ from 20¢ to find what he had left.

5¢	20¢
6¢	11¢
11¢	9¢

This problem is a two-step problem because you must use two operations to find the answer.

2. Helen had 65¢. After paying 10¢ for carfare and 18¢ for lunch, how much did she have left?

3. Jack bought a 4¢ pencil and an 8¢ tablet. How much did he have left from 25¢?

4. Fred had $1.00. He bought a knife for 35¢ and a ball for 29¢. How much did he have then?

5. Charlotte had 35 tickets to sell. She sold 17 tickets yesterday and 12 tickets today. How many tickets has she still to sell?

6. Frank's father paid $16.75 for tires and $4.60 for car repairs. How much was left from $25?

Practice in Mixed Fundamentals

1.

4812	7291	6940	7488	7010	8103
−3924	−2847	−2796	−4819	−5908	−978

2.

87	38	48	74	92	58	42	92
75	65	26	57	59	27	29	79
46	58	68	67	84	49	75	42
95	72	49	58	17	56	46	63

3.

801	56	508	84	764	520
×49	×58	×307	×36	×609	×370

4. $7\overline{)2738}$ $8\overline{)2843}$ $4\overline{)1700}$ $6\overline{)475}$ $9\overline{)343}$

5. $9.15 − $6.89 47 × 876 6035 ÷ 7

Problems

1. An airplane flew 1309 miles in 7 hours. Find the average speed per hour.

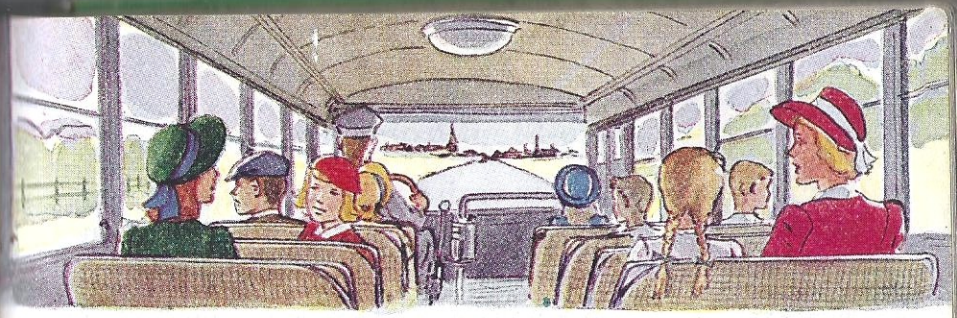
2. If an airplane travels across country at an average speed of 169 miles per hour, how far will it go in 12 hours?

3. When you pay $1.68 for 6 dozen eggs, what is the price per dozen?

4. At 9¢ each, how many bars of soap can you buy for $1.35?

5. When a train runs 150 miles in 3 hours, what is its average speed?

6. In one year a carpenter worked 285 days at $8 a day. How much did he earn that year?



The Bus Trip to the City

Find the two-step problems below. For each step decide whether you should add, subtract, multiply, or divide. Then work the problems.

One Saturday several of the fourth-grade children took a trip to the city in a bus.

1. Fred bought a tie in the city for 59¢ and a handkerchief for 15¢. How much change should he get from $1?

$.59	**$1.00**
+.15	**−.74**
$.74	**$ .26**

Step 1. Find how much he spent.

Step 2. Find the amount of his change.

2. Jack bought a cap for $.85 and a book for $.60. How much change did he get from $2?

3. The city was 40 miles away. The first town they passed was 12 miles from the school, and the second town was 11 miles farther. How many more miles did they still have to go?

4. At 20 miles per hour, how long did it take them to drive the 40 miles to the city?

5. The teacher and 8 pupils went on the trip. Their fare was $10.80. How much did each pay?

6. The driver paid $2.04 for gasoline and 40¢ for oil. What was his change from $3?

Two-Step Problems

Find the two steps in each problem. For each step write on your paper A for add or S for subtract. Then find the answers.

1. Ray wants \$1.50 for gloves, \$3.40 for shirts, and \$1.65 for a cap. He has \$5.33. How much more money does he need?

Step 1. Add to find the amount Ray wants.

Step 2. Subtract to find how much more money he needs.

\$1.50	\$6.55
3.40	5.33
1.65	\$1.22
\$6.55	

2. A farmer is plowing a 20-acre field. He plowed 4 acres yesterday and 5 acres today. How many acres has he still to plow?

3. Fred bought pens for 6¢, pencils for 5¢, and paper for 8¢. What was his change from 25¢?

4. Dick's father bought him a pair of shoes for \$4.25 and a sweater for \$3.85. What was his change from \$10.00?

5. Jane's mother invited 18 friends for dinner. She telephoned 5 in the morning and 8 in the afternoon. How many more did she have to invite?

6. Helen's mother gives the clerk a \$5 bill to pay 48¢ for eggs and 75¢ for vegetables. How much change should she get?

7. If you read 25 pages of a 164-page book on one day and 50 pages on the next day, how many more pages do you have to read?

Mixed Practice

Multiply and check:

1.	256	563	709	468	670	493
	78	95	27	49	57	27

Divide the following. Prove answers.

2.	$9\overline{)786}$	$5\overline{)413}$	$6\overline{)163}$	$8\overline{)429}$	$7\overline{)600}$
3.	$6\overline{)2164}$	$8\overline{)2071}$	$7\overline{)3917}$	$9\overline{)8732}$	
4.	$4\overline{)7810}$	$9\overline{)2360}$	$6\overline{)4200}$	$7\overline{)4960}$	
5.	$8\overline{)2742}$	$7\overline{)5137}$	$9\overline{)1618}$	$6\overline{)5983}$	
6.	$4\overline{)3714}$	$5\overline{)3192}$	$6\overline{)4764}$	$7\overline{)6854}$	

Subtract the following and prove:

7.	\$14.62	\$40.06	\$13.31	\$61.78	\$1.07
	9.54	37.95	8.97	44.89	.68

Problems

1. Helen needs 5¢ for carfare, 20¢ for lunch, and 9¢ for a tablet. She has 25¢. How much more money does she need?

2. Ruth buys a can of soup for 10¢ and a dozen oranges for 60¢. How much change should she get from a dollar?

3. Frank has 25¢. How much more does he need to pay 14¢ carfare and 20¢ for lunch?

4. A farmer had 30 cows. One week he sold 7 and the next week he sold 8 more. How many cows did he have then?

Sight Problems

Find the steps in each problem. Decide what to do in each step. Then find the answers.

1. Ruth bought 12 new stamps for her book. She gave her sister 3 of them and her brother 2. How many did she have left?

2. Jack agreed to pick 16 boxes of berries. He picked 7 boxes in the morning and 7 boxes after noon. How many boxes of berries did he still have to pick?

3. Alice bought a doll from her sister for 20¢. She paid 8¢ down and 7¢ the next day. How much more did she owe?

4. Jane has bought an eraser for 8¢ and a pad for 7¢. How much change should she get from a quarter?

Mixed Practice

Multiply and check:

1.	874 × 8	659 × 7	348 × 6	478 × 7	976 × 6	578 × 4

Divide the following. Prove the quotients.

2.	3)236	5)424	6)392	4)712	8)483
3.	7)421	3)137	5)187	8)126	9)766
4.	6)362	4)426	4)187	7)126	7)508
5.	7)912	9)648	5)276	4)642	6)598

Subtract the numbers below. Prove answers.

6.	7601 − 2692	6803 − 4785	6700 − 3688	5893 − 2894	4331 − 3456	6001 − 5998

Sixth Self-Test

Test in Division

Divide and prove:

1.	3)2875	6)4378	7)1496	8)8241
2.	4)1982	9)1497	5)3752	7)1680
3.	9)8175	6)3385	8)7722	9)3081
4.	3)1120	9)4291	7)7562	8)6739
5.	9)2540	7)2499	8)6072	5)4815
6.	4)2483	9)5200	7)3478	9)6849
7.	5)2434	7)4790	8)1475	7)6918
8.	9)4896	4)3493	5)5104	9)9493
9.	8)2939	6)2299	9)7631	8)6010

Problems

1. Ben had 18¢ and his father gave him 10¢ more. Ben spent 25¢ for valentines. How much money did he have then?

2. Ida saved 42 stamps. She gave 12 of them to her sister and 15 to her brother. How many stamps did she keep?

3. Dick had 24 examples to work. He worked 11 of them last evening and 8 this morning. How many examples does he still have to work?

4. Twenty-four children each drank a glass of milk. How many quarts was this? (1 qt. = 4 glasses.)

Problem Test

Decide whether each problem has one step or two. For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Then work the problems.

1. Fred had 15¢ and earned 20¢ delivering papers. How much more money did he need to buy a kite for 50¢?

2. Charlotte had $2.50, and she earned $5.50 during the summer. How much more does she need to buy a coat that costs $8.85?

3. Ellen bought a speller for 60¢ and a notebook for 15¢. What was her change from a $1 bill?

4. Last month Mrs. Robb bought 38 qt. of milk. How many gallons and quarts of milk did this make?

5. At 27¢ for a can of strawberries, what is the cost of 12 cans?

6. Ray has saved $1.75. After paying 49¢ for a ball and $1.10 for a fishing rod, how much will he have left?

7. Ray's father had $386.50 in the bank. After paying $39.85 for a radio and $76 for a rug, how much did he have in the bank?

8. Mr. Brown paid $60.75 for 9 tons of coal. What was the price per ton?

9. Frank's father bought $1.86 worth of gasoline and $1.50 worth of alcohol for his car. What was his change from a $10 bill?

Unit 25. Two-Step Problems

Sight Problems

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Give the answers.

1. Jack had $3 and his mother gave him $5. He spent $4 for shoes. How much did he have left?

2. How much would Fred have left from a dollar if he bought a knife for 60¢ and a top for 10¢?

3. When coffee sells at 3 lb. for 84¢, what is the price per pound?

4. What is the speed of a train that travels 200 miles in 4 hours?

5. If you buy 55¢ worth of meat and 15¢ worth of potatoes, what is your change from $1?

6. Ida bought ice cream for 5¢ and candy for 7¢. What was her change from 15¢?

7. There are 14 boys and 16 girls in the fourth grade at the Lowell School. One day 4 children were absent. How many were present?

8. Frank has 75¢. How much more does he need to buy a 40¢ ball and a 60¢ knife?

9. If I buy a dozen oranges for 50¢ and 3 cans of soup for 20¢, what is my change from $1?

10. Dick had 17¢. How many cents did he need to buy a 10¢ ball and a 15¢ knife?

Division with Zeros

1. Divide 90 by 30.

Divide: Think $3\overline{)9}$. Write 3 above 0.
Multiply: Think 3×30. Write 90.
Subtract: $90 - 90 = 0$. Do not write the 0. Proof: $3 \times 30 = 90$.

$$\begin{array}{r} 3 \\ 30\overline{)90} \\ \underline{90} \end{array}$$

2. Divide 280 by 70.

Divide: Think $7\overline{)28}$. Write 4 above 0.
Multiply: Think 4×70. Write 280.
Subtract: $280 - 280 = 0$.
Proof: $4 \times 70 = 280$.

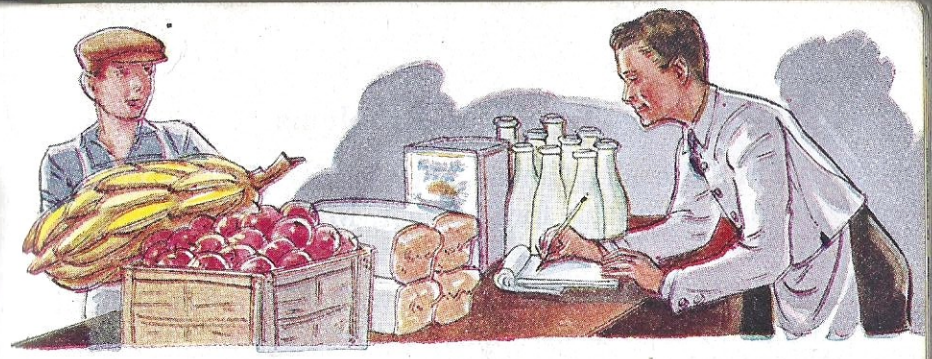
$$\begin{array}{r} 4 \\ 70\overline{)280} \\ \underline{280} \end{array}$$

3.	$20\overline{)80}$	$30\overline{)60}$	$20\overline{)160}$	$40\overline{)320}$
4.	$20\overline{)120}$	$50\overline{)300}$	$60\overline{)180}$	$80\overline{)320}$
5.	$90\overline{)810}$	$20\overline{)140}$	$30\overline{)210}$	$40\overline{)240}$
6.	$70\overline{)560}$	$80\overline{)720}$	$50\overline{)450}$	$90\overline{)630}$
7.	$20\overline{)180}$	$70\overline{)490}$	$80\overline{)640}$	$50\overline{)400}$
8.	$60\overline{)360}$	$90\overline{)540}$	$30\overline{)120}$	$80\overline{)480}$
9.	$20\overline{)100}$	$70\overline{)420}$	$50\overline{)250}$	$40\overline{)200}$
10.	$60\overline{)240}$	$40\overline{)280}$	$30\overline{)150}$	$70\overline{)350}$

Problems

1. When an auto runs 17 miles on a gallon of gasoline, how far will it run on 13 gallons?

2. At 9¢ per can, how many cans of corn can be bought for 75¢? How many cents will remain?



Buying Food for the Lunch Room

Miss White asked her pupils to find the cost of some of the food used in the lunch room.

1. The lunch room manager bought 45 lb. of sugar @ 6¢ a lb. What did this cost? $45 \times 6¢ = \$2.70$.

$$\begin{array}{r} 45 \\ 6 \\ \hline 270 \end{array}$$

Find the cost of each of the following:

2. 9 pk. potatoes @ 37¢ **3.** 6 doz. oranges @ 24¢

4. 24 lb. butter @ 28¢ **5.** 75 lb. apples @ 4¢

6. 26 doz. eggs @ 32¢ **7.** 23 loaves bread @ 7¢

8. 24 lb. steak @ 36¢ **9.** 42 lb. cabbage @ 3¢

10. 32 lb. tomatoes @ 8¢ **11.** 18 pies @ 25¢

12. The manager buys 13 gallons of milk a day. At 28¢ a gallon, what is the cost of this milk?

13. How many gallons of milk are used in 5 days?

14. A quart of milk makes 4 glasses. How many glasses of milk are there in 13 gallons?

15. At 2¢ a glass, what would the children pay for 13 gallons of milk? (See problem 14.)

16. A loaf of bread has 16 slices. At 1¢ a slice, what would the children pay for 20 loaves?

Two-Step Problems

Find the steps in each problem. For each step write A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. Ruth went to the store with 25¢. She bought 3 bars of soap at 5¢ a bar. How many cents did she have left?

Step 1. Multiply 5¢ by 3 to find the cost of the soap.

Step 2. Subtract the cost of the soap from 25¢ to find how much Ruth had left.

5¢	25¢
3	15¢
15¢	10¢

2. I am buying 4 cans of corn at 9¢ a can. How much change should I get from $1?

3. Ida has $5 in her purse. After paying for 3 dozen oranges at 45¢ a dozen, how much will she have left?

4. Dick paid 96¢ for a reader and 44¢ for a speller. How much did he have left from $1.75?

5. I have $2.41 in my purse. How much more do I need to buy 4 yards of cloth at 68¢ a yard?

6. Helen bought 9 pounds of potatoes at 3¢ a pound. What was her change from 50¢?

7. Ray has 9 quarters. How much more does he need to buy a sweater for $4.00?

8. Ben had 12 rabbits in one pen and 14 rabbits in another pen. He sold 18 of his rabbits. How many rabbits did he keep?

Practice in Division

Divide the following. Prove answers.

1.	$9\overline{)58}$	$8\overline{)36}$	$9\overline{)70}$	$7\overline{)69}$	$7\overline{)65}$	$9\overline{)52}$	$6\overline{)59}$
2.	$8\overline{)27}$	$9\overline{)65}$	$8\overline{)33}$	$7\overline{)52}$	$9\overline{)47}$	$8\overline{)54}$	$5\overline{)49}$
3.	$9\overline{)53}$	$8\overline{)68}$	$9\overline{)32}$	$7\overline{)67}$	$7\overline{)58}$	$9\overline{)68}$	$7\overline{)41}$
4.	$8\overline{)75}$	$9\overline{)30}$	$8\overline{)45}$	$9\overline{)78}$	$8\overline{)35}$	$9\overline{)25}$	$6\overline{)46}$
5.	$9\overline{)74}$	$8\overline{)44}$	$9\overline{)40}$	$8\overline{)26}$	$6\overline{)26}$	$6\overline{)59}$	$7\overline{)60}$
6.	$4\overline{)384}$	$7\overline{)242}$	$6\overline{)513}$	$5\overline{)236}$	$8\overline{)647}$	$6\overline{)500}$	
7.	$8\overline{)442}$	$9\overline{)786}$	$7\overline{)413}$	$6\overline{)407}$	$9\overline{)815}$	$4\overline{)827}$	
8.	$9\overline{)495}$	$5\overline{)412}$	$8\overline{)860}$	$4\overline{)296}$	$6\overline{)350}$	$3\overline{)288}$	
9.	$9\overline{)750}$	$6\overline{)342}$	$9\overline{)936}$	$7\overline{)581}$	$8\overline{)407}$	$6\overline{)111}$	
10.	$6\overline{)516}$	$8\overline{)737}$	$9\overline{)701}$	$5\overline{)367}$	$7\overline{)718}$	$5\overline{)704}$	

Problems

1. If you plan to set 277 plants in 8 equal rows, how many plants will you have in each row? How many plants will be left over?

2. Five boys are planning to share 68 marbles equally. How many marbles should each boy get for his share? How many will be left over?

3. Ruth bought 4 pairs of stockings at 39¢ a pair. What was her change from $2?

4. Ruth ordered soup at 6¢, milk at 4¢, and a sandwich at 7¢. What was her change from 25¢?

Division with Remainder

1. One day a milkman sold 375 quarts of milk. How many gallons of milk did he sell?

Dividing 375 by 4 changes quarts to gallons. The answer is 93*r*3. This means that he sold 93 gallons and 3 quarts.

$$4\overline{)375} \quad 93r3$$

2. A fruit grower wants to plant 295 cherry trees in 4 rows. How many trees can he plant in each row?

Divide 295 by 4. The answer is 73*r*3. This means that there will be 73 trees in each row and 3 remaining.

$$4\overline{)295} \quad 73r3$$

3. The teacher told 499 children to march in 6 equal lines. How many will there be in each line? Will there be any remaining?

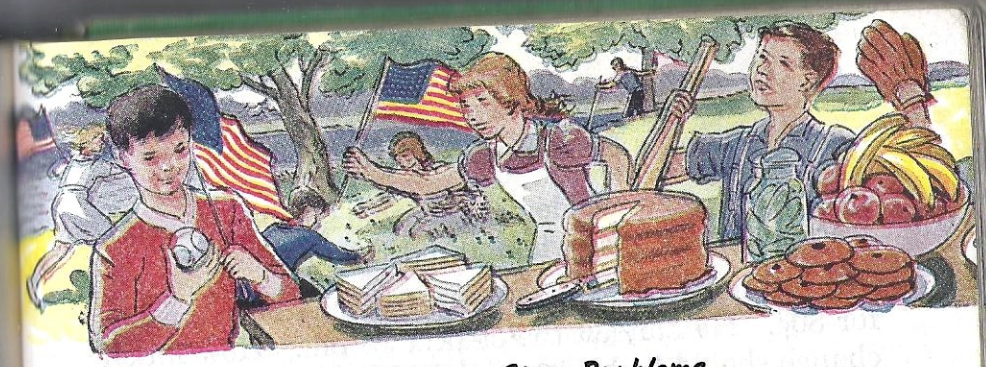
4. If 749 pupils are to march in 8 equal lines, how many will there be in each line? Will there be any remaining?

5. Can 318 pupils be placed in 4 equal lines? How many will there be in each line?

6. Can 318 pupils be placed in 6 equal lines? How many will there be in each line?

7. When the price of corn is 9¢ a can, how many cans of corn can be bought for $2.70?

8. Ben raised 368 melons last summer. When he sold them, he packed 8 melons in a box. How many boxes did he need?



Unit 26. Two-Step Problems

The School Picnic

Committees were chosen to get the following things needed for a school picnic:

Committee on Flags and Badges
2 doz. small flags at 49¢ a dozen
18 doz. badges at 9¢ a dozen

Committee on Prizes
1 grand prize at $1.75
2 second prizes at $.55 each
8 small prizes at 25¢ each

Committee on Food
13 gal. of lemonade at 70¢ a gallon
27 qt. of ice cream at 40¢ a quart
54 doz. sandwiches at 60¢ a dozen
34 doz. cookies at 20¢ a dozen

Use the prices above for the following questions:

1. How much did the small flags cost? the 18 doz. badges? all the flags and badges?

2. How much did the second prizes cost? the 8 small prizes? all the prizes?

3. Find the cost of the lemonade; the ice cream; the sandwiches; the cookies. What did all the food cost?

4. Find the total amount spent by all committees.

Problem Practice

For each step decide whether you should add, subtract, multiply, or divide. Find the answers.

1. Ray bought a pair of gloves for \$1.36 and a cap for 80¢. He handed the clerk a \$5 bill. How much change should he have received?

2. Five boys bought a sled for \$5.65 and shared the cost equally. What did each boy pay?

3. In a new school there are 14 rooms with 48 desks in each room. How many desks are there?

4. Ruth went to the store with \$2.79. She paid 28¢ for fruit, 76¢ for vegetables, and 69¢ for meat. How much money did she have then?

5. There are 9 players on a baseball team. How many teams can be formed from 81 boys?

6. Dick's father took a trip of 951 miles. He drove 358 miles the first day and 345 miles the second. How far did he still have to go?

7. Fred paid \$4.85 for shoes and \$3.98 for a sweater. What was his change from \$10?

8. A farmer had 140 acres to plow. After plowing a field of 27 acres and another field of 65 acres, how many acres did he have left to plow?

9. Charlotte's father bought a radio for \$123. He paid \$50 down and \$35 more at the end of 30 days. How much did he still owe on the radio?

10. Ben's father planted 66 apple trees in 6 equal rows. How many did he plant in each row?

Mixed Practice

Find the answers. Watch the signs.

1.

3	2	2	4	5	8	7	2	4
4	5	4	3	6	6	7	7	3
8	5	6	8	2	8	1	5	1
7	5	7	9	1	7	8	4	9
2	6	8	9	8	1	9	8	6

2.

348	882	770	844	536	900	649
−276	−396	−289	−348	−369	−409	−466

3.

872	293	682	497	672	750	916
×46	×36	×47	×72	×35	×690	×86

Add, Subtract, Multiply, or Divide?

For each step decide whether you should add, subtract, multiply, or divide. Find the answers.

1. Alice's mother bought 3 quarts of milk at 12¢ a quart and a bottle of cream for 16¢. How much did she pay for all?

Step 1. Multiply 12¢ by 3 to find the cost of the milk.

Step 2. Add the cost of the milk and the cost of the cream.

12¢	36¢
3	16¢
36¢	52¢

2. Ray sold 8 bunches of onions at 5¢ a bunch and 3 pumpkins for 22¢. How much did he get for all these vegetables?

3. Ellen bought 4 yards of silk at \$1.79 a yard and a dozen buttons for 60¢. How much did she pay for the silk and the buttons?

Problem Practice

For each step decide whether you should add, subtract, multiply, or divide. Then find the answers.

1. Ruth bought 3 boxes of berries at 15¢ a box. What was her change from a 50¢ piece?

2. A farmer raised 1349 bu. of wheat and sold 1186 bu. How much did he have left?

3. Jane bought 5 yards of dress goods at $.45 a yard and trimming for $1.75. What was the cost?

4. Ben's father paid 16¢ a gallon for 8 gal. of gasoline and 25¢ for 1 qt. of oil. How much did he spend?

Mixed Practice

1.

34	25	87	56	28	28	97	85
73	55	64	86	81	65	66	88
29	68	48	77	19	86	81	73
84	29	71	27	58	98	67	68
37	41	90	43	16	82	34	52

2.

372	555	864	587	281	439	756
489	289	748	248	510	388	966
843	597	479	667	819	563	348
737	414	810	734	866	546	823
621	287	963	582	268	375	908

3.

650	800	700	304	472	963	605
−293	−464	−308	−129	−273	−567	−407

4.

547	765	832	968	876	904	740
×28	×87	×78	×29	×54	×79	×60

Add, Subtract, Multiply, or Divide?

For each step decide whether you should add, subtract, multiply, or divide. Work the problems.

1. Frank's father gave him $2 for his birthday. He spent 60¢ for a knife and 35¢ for a ball. How much did he have left?

2. A baseball team had $9.75. The boys paid $1.10 for a ball and $2.25 for three new bats. How much did they have left?

3. Jack bought a pair of shoes for $3.65 and a pair of roller skates for $3.98. How much did he have left out of $9.50?

4. Ray worked 8 hours at 25¢ an hour. Then his mother gave him 35¢. How much money did he have?

5. Jane's mother bought 3 lb. of coffee at 29¢ a pound. What was her change from $1.00?

6. If you have $1.85, how much more do you need to buy 3 shirts at 89¢ each?

7. Ida's mother paid 39¢ a pound for 5 pounds of steak and 24¢ for a pound of lard. How much did she spend?

8. Fred bought a used football last September for $1.25 and a bat for 35¢. Later he sold them for $2. How much did he gain?

9. A dealer paid $4800 for a house and sold it for $5450. How much did he gain?

10. Mr. Miller's salary is $2400 per year. How much does he earn each month?

Using Products of 12

You will find it will help you to know the products of 12 and any number from 1 to 9.

Find the products of the following:

1.

12	12	12	12	12	12	12	12
2	3	4	5	6	7	8	9

Find the missing numbers in the following:

2. 1 doz. =__ 4 doz. =__ 6 doz. =__

3. 3 doz. =__ 5 doz. =__ 2 doz. =__

4. 7 doz. =__ 9 doz. =__ 8 doz. =__

5. 1 doz. and 5 =__ 1 doz. and 8 =__

6. 2 doz. and 3 =__ 3 doz. and 9 =__

7. 5 doz. and 7 =__ 6 doz. and 6 =__

8. 1 ft. =__ in. 5 ft. =__ in. 7 ft. =__ in.

9. 9 ft. =__ in. 2 ft. =__ in. 6 ft. =__ in.

10. 4 ft. =__ in. 8 ft. =__ in. 3 ft. =__ in.

11. 1 ft. 4 in. =__ in. 2 ft. 7 in. =__ in.

12. 3 ft. 6 in. =__ in. 4 ft. 10 in. =__ in.

13. 7 ft. 3 in. =__ in. 8 ft. 5 in. =__ in.

14. 1 yr. =__ mo. 4 yr. =__ mo. 6 yr. =__ mo.

15. 3 yr. =__ mo. 7 yr. =__ mo. 5 yr. =__ mo.

16. 8 yr. =__ mo. 2 yr. =__ mo. 9 yr. =__ mo.

17. 1 yr. 7 mo. =__ mo. 2 yr. 6 mo. =__ mo.

18. 3 yr. 8 mo. =__ mo. 4 yr. 9 mo. =__ mo.

Unit 27. Practice in the Four Operations

Problem Practice

Decide what is given, what you are to find, and whether you should add, subtract, multiply, or divide. Then work the problems.

1. If you have 43 chairs to place in 4 equal rows, how many will be put in each row and how many will be left over?

2. How many badges, each five inches long, can be cut from a piece of ribbon 72 inches long?

3. Dick has $2.50. How much money will he have after buying 2 radio tubes at $1.15 each?

4. Jack and Frank had 75 papers to sell. Each sold 34 papers. How many papers were left?

5. Ben went to the circus with 95¢. He came home with 18¢. How much did he spend?

6. Jane bought 4 pencils at 3¢ each. She gave the clerk 15¢. What was her change?

7. A lunch-room manager paid $3.00 for a box of 96 apples. He sold the apples at 5¢ each. How much did he gain on the box of apples?

8. Find the cost of 3 pounds of butter at 42¢ a pound and a peck of potatoes for 38¢.

9. Ray worked 3 hours at 25¢ an hour. How much more does he need for a $1.15 glove?

Mixed Practice

Write the numbers in columns and add:

1. 78+67+59+32 65+58+86+49
2. 478+593+1487 9+567+84+38
3. 746+9+87+94 75+8+475+63
4. 986+745+2794 3815+784+976
5. \$76.57+\$8.94+\$435.85+\$49.87
6. \$86.75+\$487.06+\$6.53+\$8.75+\$.95

Write the numbers below and subtract:

7. 8579−4889 4363−708 800−189
8. 3556−2878 8001−5096 805−276
9. \$675−\$87.87 \$456−\$5.49 \$4.60−\$.87
10. \$863.36−\$478.93 \$1263.83−\$956.75

Write the numbers below and multiply:

11. 9×129 8×367 8×498 7×953
12. 7×876 8×475 6×967 4×479
13. 9×765 5×659 8×497 7×439
14. 34×\$67.85 56×\$89.67 47×\$15.75
15. 58×874 870×659 5400×3600

Divide the following. Prove answers.

16. 647÷8 759÷7 497÷9 867÷6
17. 806÷7 748÷8 695÷9 700÷8
18. 578÷4 937÷6 489÷5 601÷7

Grocery Problems

Find the steps in each problem. Decide what you should do in each step. Then work the problems.

1. The grocer bought 6 boxes of oranges, each box containing 84, and sold the oranges at 5¢ each. How much did he get for them?

Step 1. 6×84 = the number of oranges in the 6 boxes.

Step 2. 504×\$.05 = the cost of the oranges. The cost is \$25.20.

84	504
6	5
504	2520

2. Find the cost of 8 bags of coffee, each weighing 32 pounds, at 25¢ a pound.

3. The grocer sold 7 dozen bunches of onions at 3¢ a bunch. How much did he get for them?

4. The grocer put 24 bushels of potatoes into one-peck bags and sold them at 26¢ a bag. How much did he get for the potatoes?

5. Ruth bought 3 cans of pears at 24¢ a can and a sack of flour for \$1.09. What was the cost?

6. Helen bought 9 bars of soap at 6¢ each. What was her change from 75¢?

7. At \$1.25 per tree, what will be the cost of 12 rows of apple trees with 16 trees per row?

Sight Problems

1. If an airplane flies 240 miles in 2 hours, what is the average speed?

2. Four boys paid \$6 each for a vacation trip. What was the total cost of the trip?

3. Charlotte gave the clerk \$5 for a \$2 hat and a 50¢ pair of gloves. What was her change?

4. Ruth went to the grocery store with 60¢ and came home with 15¢ in her purse. How much money did she spend?

5. At 50¢ per dozen, what will 6 oranges cost?

6. At \$2 a bushel, how many bushels of potatoes can I buy for \$12?

Practice in Division

Divide and prove:

1.	$3\overline{)298}$	$4\overline{)537}$	$3\overline{)700}$	$5\overline{)303}$	$9\overline{)8154}$
2.	$6\overline{)546}$	$7\overline{)721}$	$8\overline{)390}$	$9\overline{)749}$	$7\overline{)5006}$
3.	$4\overline{)1388}$	$6\overline{)1728}$	$8\overline{)6472}$	$4\overline{)901}$	$7\overline{)7140}$
4.	$3\overline{)2898}$	$5\overline{)2005}$	$9\overline{)6782}$	$7\overline{)800}$	$6\overline{)4600}$
5.	$4\overline{)785}$	$8\overline{)574}$	$7\overline{)892}$	$5\overline{)849}$	$9\overline{)7010}$
6.	$7\overline{)280}$	$3\overline{)90}$	$4\overline{)160}$	$6\overline{)540}$	$8\overline{)5031}$
7.	$8\overline{)720}$	$7\overline{)630}$	$5\overline{)450}$	$9\overline{)810}$	$7\overline{)3040}$
8.	$6\overline{)760}$	$9\overline{)648}$	$8\overline{)492}$	$7\overline{)907}$	$6\overline{)2541}$

Practice in Multiplication

Multiply and check:

1.	$8\times\$12.40$	$7\times\$62.50$	$9\times\$31.56$
2.	$9\times\$43.19$	$7\times\$34.76$	$6\times\$39.96$
3.	$9\times\$48.65$	$4\times\$76.85$	$8\times\$47.68$
4.	$27\times\$17.04$	$308\times\$21.68$	$704\times\$54.85$
5.	$540\times\$86.60$	$700\times\$94.13$	$467\times\$75.15$

6.	597	917	709	687	176	663	908
	96	87	24	58	97	46	69
7.	549	938	906	760	437	640	820
	97	67	80	340	58	600	900

Sight Problems

1. How many gallon jars can be filled from 10 quarts? How many quarts will be left over?

2. A piece of rope 16 feet long measures how many yards and feet?

3. Jack has a kite string 85 yards long. How many yards more of string does he need to make his string 100 yards long?

4. A room 5 yards and 2 feet long will measure how many feet in length?

5. Ida needs 12¢ for carfare and 15¢ for lunch. She has 25¢. How much more should she have?

6. If you buy 4 bars of soap at 6¢ a bar, what is your change from 25¢?

Sight Problems

Write the answer for each problem.

1. Fred bought a notebook for 10¢ and a pencil for 5¢. What change should he receive from a quarter?

2. Indian suits sell for $4.20 in one store and $3.60 in another. How much cheaper are they in the second store?

3. If I buy candy for 20¢ and a cake for 50¢, what is my change from a dollar?

4. Jack sold 60 papers at 3¢ each. How much did he get for the papers?

5. Ben wants pennies for a quarter, a dime, and a nickel. How many pennies should he get?

6. A fruit grower took 65 baskets of peaches to market and sold all but 9 of them. How many baskets did he sell?

7. If I buy 3 dozen cakes at 20¢ a dozen, what change should I get from 75¢?

8. If oil is sold for $1.20 a gallon, what is a quart worth at the same rate?

9. What is my change from $5 if I buy 3 gallons of oil at $1 a gallon?

10. Frank spent 14¢ for carfare and 20¢ for lunch. How much money should he have left out of 50¢?

11. What is the cost of 3 pencils at 5¢ each and a tablet at 12¢?

Unit 28. Fractions

Finding Parts of Numbers

Write the answers on folded paper.

1.	$\frac{1}{4}$ of 20	$\frac{1}{6}$ of 36	$\frac{1}{7}$ of 21	$\frac{1}{5}$ of 40
2.	$\frac{1}{2}$ of 16	$\frac{1}{4}$ of 12	$\frac{1}{5}$ of 15	$\frac{1}{9}$ of 18
3.	$\frac{1}{6}$ of 12	$\frac{1}{9}$ of 45	$\frac{1}{5}$ of 20	$\frac{1}{8}$ of 56
4.	$\frac{1}{4}$ of 28	$\frac{1}{3}$ of 21	$\frac{1}{9}$ of 27	$\frac{1}{8}$ of 24
5.	$\frac{1}{7}$ of 63	$\frac{1}{6}$ of 24	$\frac{1}{6}$ of 30	$\frac{1}{5}$ of 45
6.	$\frac{1}{9}$ of 54	$\frac{1}{6}$ of 18	$\frac{1}{7}$ of 42	$\frac{1}{2}$ of 40
7.	$\frac{1}{2}$ of 18	$\frac{1}{8}$ of 16	$\frac{1}{4}$ of 16	$\frac{1}{8}$ of 40
8.	$\frac{1}{3}$ of 24	$\frac{1}{9}$ of 72	$\frac{1}{7}$ of 28	$\frac{1}{7}$ of 56

Sight Problems

1. A grocer sold 6 oranges at 3¢ each. How much change should he give for a half dollar?

2. If you buy a loaf of bread for 8¢ and a bottle of cream for 15¢, how much change should you get from a half dollar?

3. Ray's father bought 6 quarts of oil at 30¢ a quart. What was his change from $2?

4. Ray has 60¢. How much more does he need to buy 3 cans of pears at 25¢ each?

Sight Problems

Read, and give the answers.

1. At 30¢ a dozen, what will 6 pears cost?

2. How many pieces of candy do you need for 12 children if you give 2 pieces to each child?

3. Dick had $5. He earned $4 more, and then spent $6. How much money did he have left?

4. Helen has been saving nickels until she now has 20 nickels. How many quarters is this?

5. Ben had $10 in a bank. After putting in $5 more, he drew out $8. How much did he have then?

6. How many 60¢ radio tubes can you buy for $3?

Finding Parts of Numbers

Write the answers on folded paper.

1.	$\frac{1}{5}$ of 10	$\frac{1}{3}$ of 18	$\frac{1}{7}$ of 49	$\frac{1}{4}$ of 32
2.	$\frac{1}{5}$ of 35	$\frac{1}{4}$ of 24	$\frac{1}{8}$ of 72	$\frac{1}{6}$ of 30
3.	$\frac{1}{9}$ of 63	$\frac{1}{8}$ of 32	$\frac{1}{3}$ of 27	$\frac{1}{6}$ of 48
4.	$\frac{1}{5}$ of 25	$\frac{1}{6}$ of 54	$\frac{1}{7}$ of 35	$\frac{1}{8}$ of 64
5.	$\frac{1}{6}$ of 96	$\frac{1}{2}$ of 124	$\frac{1}{3}$ of 102	$\frac{1}{3}$ of 648
6.	$\frac{1}{4}$ of 976	$\frac{1}{3}$ of 234	$\frac{1}{4}$ of 264	$\frac{1}{3}$ of 408
7.	$\frac{1}{5}$ of 675	$\frac{1}{4}$ of 536	$\frac{1}{5}$ of 225	$\frac{1}{8}$ of 816
8.	$\frac{1}{6}$ of 132	$\frac{1}{5}$ of 105	$\frac{1}{8}$ of 448	$\frac{1}{3}$ of 984
9.	$\frac{1}{8}$ of 336	$\frac{1}{7}$ of 147	$\frac{1}{2}$ of 982	$\frac{1}{9}$ of 801

Add, Subtract, Multiply, or Divide?

For each problem write on your paper A for add, S for subtract, M for multiply, or D for divide. Write the answers.

1. How many weeks and days are there in a common year of 365 days?

2. How many weeks and days are there in a leap year of 366 days?

3. How many baseball teams with 9 boys on a team can be formed from 144 boys?

4. At 24¢ a can, what is the cost of 4 dozen cans of peaches?

5. How much money will be needed for a sack of flour at $1.17 and 9 cans of soup at 6¢ a can?

6. Ray earned 65¢ a day for 12 days last summer. After paying $1.25 for a bat and a ball, how much money did he have?

Practice in Subtraction

1.	957 368	9515 6816	2749 762	6328 5349	6680 3708	9007 6058
2.	$8.15 2.77	$40.96 31.79	$75.19 35.85	$96.44 48.67	$63.48 15.51	
3.	$9.31 3.67	$64.31 25.38	$85.23 35.76	$88.62 58.63	$77.22 47.28	
4.	$8.31 6.59	$93.31 73.85	$94.21 58.64	$98.02 69.06	$92.44 59.66	

Mixed Practice

Find the answers.

1.	783 − 686	645 − 389	5432 − 4925	6332 − 1678	7026 − 4967	3800 − 1691
2.	316 − 249	529 − 490	3134 − 3006	9937 − 4138	8033 − 6587	5022 − 4356
3.	460 − 281	675 − 386	1334 − 468	6603 − 5624	7000 − 4699	6114 − 3999
4.	467 × 68	689 × 84	248 × 35	987 × 67	539 × 208	726 × 490
5.	8)7954		7)6209	6)4190		9)1785
6.	9)5983		4)5000	7)6001		6)5900
7.	6)4735		8)7000	9)4444		7)8090

Problems

1. Fred wants to buy a bat and ball for $2. If he saves 25¢ a week for 6 weeks, how much more will he need?

2. Dick paid $2.50 for seeds and supplies for his garden. He has sold corn for $1.65 and tomatoes for $2.80. How much has he made on his garden so far?

3. Jack has 75¢. How much more does he need to buy compasses for 49¢ and a cap for 68¢?

4. A farm has 8 acres of wheat on which 192 bushels were grown. What was this per acre?

A Stand for Farm Products

Jack and Frank had a stand and a scale to sell fruit, eggs, and vegetables from a farm.

Find the amount of their sales.

1.	145 lb. cabbage @ 4¢	78 lb. tomatoes @ 6¢
2.	115 lb. cherries @ 8¢	84 lb. pears @ 5¢
3.	275 lb. potatoes @ 2¢	180 lb. grapes @ 5¢
4.	95 lb. wax beans @ 5¢	64 lb. peaches @ 4¢
5.	65 lb. green beans @ 7¢	125 lb. apples @ 4¢
6.	98 bunches onions @ 3¢	36 pumpkins @ 15¢
7.	106 boxes berries @ 12¢	85 lb. peas @ 10¢
8.	25 doz. eggs @ 26¢	96 doz. corn @ 20¢

9. One day Mrs. Allen bought 3 doz. eggs, 4 lb. tomatoes, 15 lb. potatoes, and 4 lb. wax beans. What was her change from $5?

10. Mr. Smith bought 2 pumpkins, 2 doz. corn, and 3 doz. eggs. What was his change from $2?

11. Mrs. Brown purchased 2 lb. grapes, 5 lb. wax beans, 3 lb. peas, and 5 bunches onions. How much did she get back from a dollar?

Practice in Subtraction

Give the remainders quickly.

1.	8	17	11	16	18	11	10	11	15
	5	9	8	7	9	4	3	3	7
2.	12	15	17	15	13	15	13	17	11
	7	9	8	6	5	9	7	8	7
3.	14	13	14	15	16	13	14	13	14
	9	4	6	8	9	8	5	9	8

Subtract the following. Prove the remainders.

4.	716	6818	9681	5187	6000	4319
	438	2942	3749	383	574	1427
5.	891	5415	9097	7459	8357	8114
	852	1759	2679	2988	787	3789

Problems

1. There are 36 children in the fourth grade. If they march by 3's, how many will there be in each line?

2. A grocer bought a box of 168 lemons for $3.45 and sold them at 3¢ each. How much did he gain on the box of lemons?

3. A farmer sold 684 bushels of potatoes at 56¢ a bushel. How much did he get for his potatoes?

4. A dealer bought a house for $2275 and spent $385 for repairs on the house. Then he sold it for $3250. What was his gain?

Seventh Self-Test

Test in Mixed Work

Find the answers.

1.	47	95	45	41	54	81	75	12
	92	40	47	76	48	69	36	33
	84	79	69	24	96	63	18	76
	54	83	69	27	62	52	48	28
	39	12	35	98	28	67	97	37
2.	53	56	39	94	27	34	61	73
	68	49	58	15	73	23	13	45
	49	68	38	94	84	69	93	76
	98	89	97	56	75	72	55	45
	98	38	46	33	57	83	59	27

3.	8755	6507	9486	8387	9661
	−6976	−6258	−4567	−4409	−4767
4.	6396	6843	8801	7192	7346
	−5803	−5756	−1268	−1008	−3067
5.	9644	6528	7445	4813	9319
	−4705	−4089	−2839	−3538	−3531
6.	8017	706	840	49	7
	−908	×87	×600	657	465
				8	34
7.	5601			4653	9827
	−2507	6)5901	8)4817	65	306

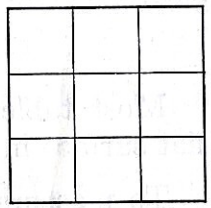
8. Add 96, 473, 9857, 9, 85, and 5078.

9. 67×769 7804÷8 8015−4769 7408+967

Square Inches, Feet, and Yards

1. How many square feet are there in 1 sq. yd.?

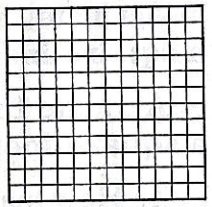
On the blackboard draw a square 1 yard long and 1 yard wide. Divide the square yard into square feet as shown. You will have __ rows of square feet with __ sq. ft. in each row.
1 sq. yd. = 3 × 3 = __ sq. ft.



1 sq. yd.

2. How many square inches are there in a square foot?

Draw a square 1 foot long and 1 foot wide. Divide the square foot into square inches. You will have __ rows of square inches with __ square inches in each row.
1 sq. ft. = 12 × 12 = __ sq. in.

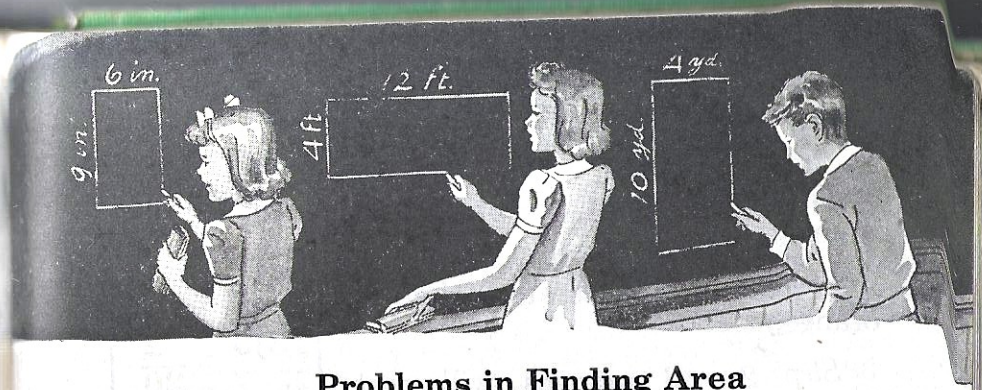


1 sq. ft.

3. 3 sq. yd. = __ sq. ft. 3 sq. ft. = __ sq. in.

Find the area in each of the following. Draw a figure to show the area in each problem.

	Length	Width	Area		Length	Width	Area
4.	8 in.	3 in.	__	**5.**	8 ft.	5 ft.	__
6.	5 in.	5 in.	__	**7.**	7 ft.	6 ft.	__
8.	9 in.	3 in.	__	**9.**	4 yd.	3 yd.	__
10.	7 in.	4 in.	__	**11.**	15 yd.	8 yd.	__
12.	10 in.	8 in.	__	**13.**	14 ft.	12 ft.	__
14.	9 in.	6 in.	__	**15.**	8 yd.	6 yd.	__



Problems in Finding Area

Miss White asked Jane, Ellen, and Jack to make drawings for these problems. Give the answers.

1. How many square inches are there in a sheet of paper 6 in. wide and 9 in. long?

2. How many square feet are there in a blackboard 12 ft. long and 4 ft. wide?

3. Jack's garden is 4 yd. by 10 yd. What is the area of his garden in square yards?

4. Which is larger, a card 8 in. by 10 in. or a card 9 in. by 9 in.? how much larger?

5. What is the area of a rug 5 ft. by 7 ft.?

6. How many square inches are there in a sheet of paper 24 in. long and 18 in. wide?

7. A rug 16 ft. long and 12 ft. wide will cover how many square feet of floor surface?

8. How many square feet are there in the floor of a schoolroom 28 feet wide and 34 feet long?

9. A square piece of ground measures 10 feet on each side. What is its area in square feet?

10. How many square yards are there in a floor 14 yards long and 9 yards wide?

Two-Step Problems

1. When oranges sell at 3 for 10¢, what will 6 oranges cost?

Step 1. 6 oranges are 2 times 3 oranges.

Step 2. 6 oranges will cost $2 \times 10¢ = 20¢$.

$$3\overline{)6}\quad 2 \qquad 10 \times 2 = 20$$

2. If 3 pumpkins sell for 25 cents, what will 6 pumpkins cost?

3. When apples sell at 4 for 10¢, what will 12 apples cost?

4. Fred bought 3 candy bars at 5¢ each and a box of berries for 8¢. Find the cost.

Practice in Addition

Add and check:

1.	7	9	5	8	6	7	4	3	8
	8	6	4	9	7	9	9	8	6
	5	6	9	7	8	6	7	9	5
2.	7	8	6	7	4	7	8	7	9
	9	6	7	9	3	6	6	3	5
	5	4	4	9	8	8	5	4	3
	8	9	3	8	2	4	9	5	1
3.	7	9	8	7	6	8	4	8	5
	8	6	9	8	6	5	9	5	7
	6	7	3	7	3	4	5	7	9
	7	9	8	2	9	8	8	4	8
	4	3	2	9	5	3	1	3	6

How Well Do You Add and Divide?

Add and check:

1.	78	93	89	66	85	84	66	85
	67	54	38	39	48	87	56	74
	49	49	27	14	34	47	33	35
	96	87	87	94	58	34	45	79
	67	24	29	76	19	76	89	86

Divide the following. Prove the answers.

2.	$6\overline{)5447}$	$9\overline{)8470}$	$7\overline{)4760}$	$8\overline{)7003}$
3.	$7\overline{)6004}$	$8\overline{)7470}$	$6\overline{)5060}$	$9\overline{)7672}$
4.	$9\overline{)6935}$	$4\overline{)9798}$	$8\overline{)5555}$	$7\overline{)6470}$
5.	$8\overline{)6900}$	$7\overline{)5177}$	$9\overline{)7745}$	$6\overline{)1611}$

Problems

1. How much money do you need for 3 cans of pears at 20¢ a can and a pound of steak for 30¢?

2. Ray bought 4 oranges at 5¢ each. What was his change from 50¢?

3. At 36¢ per pound, what is the cost of $\frac{1}{4}$ lb. of butter?

4. My father drove his car 288 miles in 8 hours. What was his average speed per hour?

5. At 25¢ a quart, what is the cost of 4 gallons of oil?

6. How many square inches are there in a sheet of paper 9 in. by 12 in.?

7. What will 12 marbles cost if 2 cost 5¢?

Problem Practice

For each step write A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. Ellen bought 3 quarts of milk at 12¢ a quart and a bottle of cream for 16¢. How much did she pay for all?

2. Fred has $9.82 and earns $1.60 a week by working after school. If he saves all he earns for 5 weeks, how much money will he have?

3. Mrs. Allen bought a rug 4 yd. by 3 yd. How many square yards are there in the rug? At $3 a square yard, find the cost of the rug.

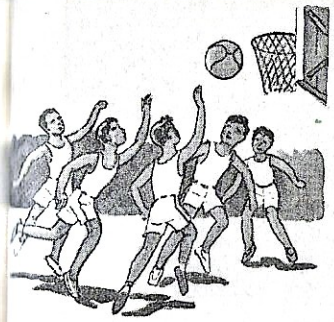
4. Jane bought 4 yd. of silk at $1.98 a yard and a dozen buttons for 45¢. How much did she pay for the silk and the buttons?

5. Mr. Jones paid 16¢ a gallon for 12 gallons of gasoline and 25¢ for a quart of oil. How much did he spend?

6. Dick has saved $4.59. How much more does he need to buy a sweater for $2.49 and a pair of skates for $3.49?

7. Frank sold 8 bunches of onions at 5¢ a bunch and six pounds of tomatoes for 22¢. How much did he receive for all?

8. Last summer three girls in our class sold 75 glasses of lemonade at 5¢ a glass. The expenses for lemons, ice, and sugar were $1.45. How much did they make on the sales?



Unit 30. Finding Averages

Fourth-Grade Averages

1. The weights of 5 boys on our basketball team are: Fred, 55 lb.; Jack, 60 lb.; Frank, 57 lb.; Ben, 61 lb.; and Dick, 62 lb. Find their average weight.

Step 1. Add the 5 weights.

Step 2. Divide the sum of the weights by 5. The average weight is 59 lb.

```
 55
 60
 57
 61
 62
5)295
  59
```

2. The heights of the 5 boys are: Fred, 48 in.; Jack, 50 in.; Frank, 49 in.; Ben, 51 in.; and Dick, 52 in. Find their average height.

3. Ruth weighs 59 lb., and Ida weighs 75 lb. What is the average of their weights?

4. The daily attendance record of the fourth grade for one week showed: 35, 38, 37, 40, 35. What was the average daily attendance?

5. Fred caught four fish weighing 14, 19, 24, and 27 ounces. Find their average weight.

6. In three days, Helen's father drove 197 mi., 258 mi., and 463 mi. What was his average?

7. In 5 days, Ruth spent for lunches: 17¢, 22¢, 15¢, 21¢, and 25¢. What was the average cost of her lunches per day?

8. Jack made sales of 65¢, 45¢, 75¢, and 95¢ at a lemonade stand. Find his average.

Other Problems on Averages

1. Ruth's lunches at school for one week cost as follows: Monday, 19¢; Tuesday, 15¢; Wednesday, 16¢; Thursday, 18¢; Friday, 17¢. What was the average daily cost?

2. Fred's grade in arithmetic for February was 88; for March, 90; for April, 93; for May, 95. What was his average for the 4 months?

3. Five boys weigh 67 lb., 74 lb., 78 lb., 81 lb., and 75 lb. What is their average weight?

4. Ray worked 3 weeks earning $1.85, $2.50, and 75¢. What was his average earning?

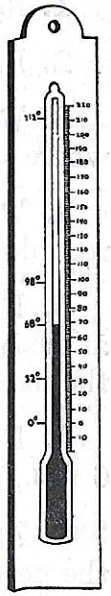
5. Eight children shared the cost of a party. The food cost $8, the gifts cost $5, and the prizes cost $3. What was each child's share?

6. In 4 days an automobile was driven 250 miles, 264 miles, 276 miles, and 286 miles. What was the average distance per day?

7. Five girls had a picnic. They spent 25¢ for sandwiches, 20¢ for apples, and 15¢ for candy. What was each girl's share of the expense?

8. During 9 days Mr. Harper drove his car 1872 miles. What was the average distance per day?

Measuring Temperature



A thermometer tells how warm or how cold the air is around it. The numbers tell the **degree of temperature.** Heat makes the mercury in the glass tube rise; cold makes it fall.

This thermometer shows a temperature of 68 degrees, written 68°. During the day, 68° to 70° is said to be the best temperature for homes or schoolrooms.

Interesting Facts to Remember

Each mark on most thermometers shows 2 degrees of temperature.

Water freezes at 32° above zero.

Water boils at 212° above zero.

Body heat is about 98°. This is your temperature when you are well.

Degrees below zero are written with the sign −; as −10°. When the mercury shows −20°, we say it is twenty below zero.

Daily papers contain weather reports giving the highest and lowest temperatures for many of the large cities.

1. Bring copies of weather reports to class. The highest temperatures recorded in a recent year in the United States were as follows: Boise, 121°; and Phoenix, 119°. The lowest temperatures were: Bismarck, −45°; Pierre, −43°; and Helena, −42°.

Using the Thermometer

1. How much warmer is 68° than 32°?

2. How much colder is 10° than 32°?

3. What is the lowest winter temperature recorded where you live?

4. What is the highest summer temperature recorded where you live?

5. If the temperature was 25° at 7:30 A.M. and 40° at noon, how much did the temperature rise during the morning?

6. If the temperature was 40° at noon and 28° at 6 P.M., how much did the temperature drop?

7. At noon one day the temperature was 35°, but the next morning it was 10° below zero. How many degrees had the temperature dropped?

8. When the thermometer reads 80°, the temperature is how many degrees above freezing?

9. One day in January, the temperature in Omaha was 8° and in New Orleans 62°. Omaha was how much colder than New Orleans?

10. When the inside temperature is 70° and the outside temperature is 19°, how many degrees warmer is it inside?

11. Water freezes at 32° and boils at 212°. What is the difference in degrees?

12. Mercury freezes at $-38°$ and alcohol at $-202°$. Find the difference in degrees.

Practice in Division

Divide and prove:

1.	$7\overline{)2318}$	$6\overline{)2239}$	$9\overline{)4857}$	$8\overline{)1170}$
2.	$3\overline{)2432}$	$6\overline{)4316}$	$9\overline{)9416}$	$8\overline{)8519}$
3.	$7\overline{)3372}$	$9\overline{)1230}$	$4\overline{)1024}$	$6\overline{)4792}$
4.	$5\overline{)6089}$	$8\overline{)4464}$	$6\overline{)9704}$	$7\overline{)1691}$
5.	$9\overline{)1897}$	$6\overline{)7314}$	$5\overline{)1482}$	$8\overline{)1228}$
6.	$5\overline{)8902}$	$4\overline{)8505}$	$6\overline{)9009}$	$7\overline{)8000}$

Sight Problems

1. Ellen had 28 jacks and gave $\frac{1}{4}$ of them to her sister. How many jacks did she give away?

2. Ben spent 55¢ to have his bicycle repaired. What was his change from 75¢?

3. Charlotte bought 4 cans of tomatoes at 9¢ a can. What was her change from 50¢?

4. A man drove his automobile 480 miles in 8 days. What was the average number of miles that he drove per day?

5. Dick earned 60¢ and decided to save $\frac{1}{5}$ of it. How much did he save?

6. At a sale the price of an $18 coat was reduced $\frac{1}{3}$. What was the sale price of the coat?

7. The price of a $20 suit was reduced $\frac{1}{4}$. How much was the price reduced?

Sight Problems

Write the answer for each problem.

1. Dick had 35¢ in the bank. Then he put in 10¢, and later he took out 5¢. How much did he have in his bank then?

2. How many quarts of milk does it take to fill 16 pint bottles?

3. How many cents are there in a half dollar, a quarter, and 2 dimes?

4. What is the area of a floor 12 ft. long and 10 ft. wide?

5. Ben bought 2 pencils at 4¢ each and gave the clerk a dime. What was his change?

6. When 3 cans of corn sell for 23¢, what is the cost of 6 cans of corn?

7. Three boys rented a boat for 75¢. What was each boy's share of the expense?

8. When lemons sell at 3 for 10¢, what is the cost of a dozen lemons?

Practice in Division

1.	8)3774	6)3936	9)2590	7)9951	3)7000
2.	5)4731	4)2997	7)4095	6)4575	5)1100
3.	9)6048	8)1974	7)4464	2)3001	6)7120
4.	6)4040	9)4556	7)5200	8)9804	5)7807
5.	3)2624	4)1211	8)3008	7)5400	6)2139

Unit 31. Problems and Division Practice

Parts of Numbers

Find the answers.

1.	$\frac{1}{2}$ of 36	$\frac{1}{3}$ of 36	$\frac{1}{4}$ of 36	$\frac{1}{6}$ of 36
2.	$\frac{1}{9}$ of 36	$\frac{1}{12}$ of 36	$\frac{1}{2}$ of 60	$\frac{1}{3}$ of 60
3.	$\frac{1}{4}$ of 60	$\frac{1}{5}$ of 60	$\frac{1}{6}$ of 60	$\frac{1}{2}$ of 100
4.	$\frac{1}{4}$ of 100	$\frac{1}{5}$ of 100	$\frac{1}{2}$ of 80	$\frac{1}{8}$ of 48
5.	$\frac{1}{3}$ of 24	$\frac{1}{8}$ of 24	$\frac{1}{4}$ of 24	$\frac{1}{6}$ of 24
6.	$\frac{1}{2}$ of 24	$\frac{1}{12}$ of 24	$\frac{1}{2}$ of 20	$\frac{1}{4}$ of 20
7.	$\frac{1}{5}$ of 20	$\frac{1}{10}$ of 20	$\frac{1}{6}$ of 480	$\frac{1}{8}$ of 400
8.	$\frac{1}{8}$ of 96	$\frac{1}{2}$ of 150	$\frac{1}{3}$ of 240	$\frac{1}{5}$ of 600

Sight Problems

Write the answer for each problem.

1. If an auto runs 15 miles on a gallon of gasoline, how far will it run on 3 gallons?

2. A grocer sells 2 pecks of potatoes at 30¢ each. What change should he give for a dollar?

3. I bought 6 quarts of oil at 30¢ a quart. What was my change from a $5 bill?

4. Charlotte has a half dollar and a quarter. How much must she get to have a dollar?

Problem Practice

Write A, S, M, or D on your paper for each step. Then work the problems.

1. On January 1 a man had $565.40 in the bank. During the year he put in $3460 and drew out $2947.85. How much did he have in the bank at the end of the year?

2. In a small dairy 180 quart bottles are filled with milk every day. How many gallons of milk does it take to fill these bottles?

3. Dick gives a dollar bill to the clerk to pay for 8 pounds of sugar at 6¢ a pound. How much change should he receive?

4. A boy spent $13.50 raising potatoes. How much did he get for his work if he sold 74 bushels at 95¢ a bushel?

5. Helen has 78 cents which she wants to exchange for dimes. How many dimes should she get and how many cents are left over?

6. Ray has a garden 36 feet long and 24 feet wide. What is the area of his garden?

7. A school sold 87 tickets for a basketball game at 25¢ each. The expenses of the game were $7.25. What was the profit?

8. Ben has $1.45. If he saves $.75 each week for 5 weeks, how much will he have?

9. How many cans of peaches will it take to fill 45 boxes with 2 dozen cans in each box?

Mixed Practice

Find each answer.

1.	$9\overline{)2331}$	$7\overline{)1886}$	$8\overline{)4370}$	$6\overline{)6246}$	$4\overline{)7605}$
2.	$7\overline{)4948}$	$8\overline{)5073}$	$6\overline{)5375}$	$9\overline{)8280}$	$4\overline{)1238}$
3.	$9\overline{)4372}$	$7\overline{)5950}$	$9\overline{)5795}$	$5\overline{)7025}$	$3\overline{)2900}$

4.

847	715	828	291	48	9
261	198	631	687	217	76
529	805	115	41	6	458
502	43	321	463	94	65
330	78	67	376	729	793

5.

8421	3111	2752	1124	7514
−2618	−2847	−1853	−445	−888

6.

6183	8113	7483	4662	1373
−4184	−4838	−2846	−3872	−689

7.	87×768	64×392	43×898	96×704
8.	79×824	68×497	648×708	86×594

Problems

For each step tell whether you add, subtract, multiply, or divide. Then work the problems.

1. Pencils sell for 3¢ each or 30¢ a dozen. How much can be saved by buying a dozen?

2. It takes 12 min. to go to school. If I start at 8:15 A.M., when should I reach school?

3. Mr. Jones paid $580 for one lot and $760 for another. He sold both for $1530. What did he gain?

Problem Practice

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Then work the problems.

1. Frank's father bought three shirts at $1.85 each and a pair of shoes for $5.75. How much did he pay for all?

2. Jack has 144 cabbage plants to set out. He plans to set them in 9 equal rows. How many plants will he have in each row?

3. Mr. Jones bought 3 auto tires at $9.50 each and a horn for $2.75. How much did he spend?

4. A dealer bought 6 acres of land for $250 and sold it for $65 an acre. What was his profit on the sale?

5. A train that was due at 9:25 A.M. arrived 30 minutes late. What time did the train arrive?

6. An airplane flew 1392 miles in 8 hours. What was the average speed per hour?

Mixed Practice

Give the missing numbers.

1.	$9 \div 6 = \_\_$	$9 \times 17 = \_\_$	$17 - 8 = \_\_$	$54 \div 9 = \_\_$
2.	$7 \times 8 = \_\_$	$15 - 6 = \_\_$	$56 \div 8 = \_\_$	$8 \div 6 = \_\_$
3.	$16 - 7 = \_\_$	$9 \times 8 = \_\_$	$7 \div 5 = \_\_$	$63 \div 7 = \_\_$
4.	$48 \div 6 = \_\_$	$14 - 9 = \_\_$	$6 \times 7 = \_\_$	$6 + 7 = \_\_$
5.	$18 - 9 = \_\_$	$18 \div 9 = \_\_$	$9 \div 5 = \_\_$	$9 \times 5 = \_\_$

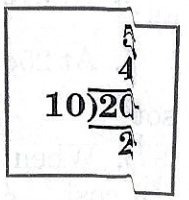
Practice in Division

Divide and prove:

1.	$2304 \div 6$	$3192 \div 9$	$5407 \div 8$	$7125 \div 4$
2.	$9348 \div 9$	$3307 \div 7$	$2714 \div 6$	$3154 \div 5$
3.	$1739 \div 8$	$1685 \div 6$	$1980 \div 3$	$4144 \div 9$
4.	$3087 \div 7$	$2448 \div 8$	$5167 \div 7$	$7001 \div 8$

Problems

1. Ten boys rented a tennis court for 4 months at $5 a month. What was each boy's share?



Step 1. Think 4×5. Write 20.

Step 2. Think $20 \div 10$. Write 2 below the dividend, as shown.

2. Two boys sold 8 boxes of berries at 7¢ each. What did each receive?

3. One day 3 girls sold 75 glasses of lemonade at 5¢ a glass. What was each girl's share of the money received?

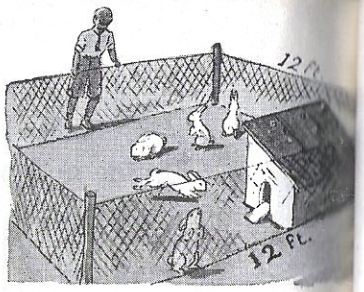
4. Eight girls went camping for 4 weeks. They rented a cottage for $6 a week. What was each girl's share of the rent?

5. Jack sold 8 bags of candy at 5¢ a bag. How many 2¢ marbles could he buy with this money?

6. Alice bought 4 pounds of nuts at 28¢ a pound. What was her change from $5?

7. Eight gallons equal how many quarts?

Sight Problems



1. Fred sold 4 rabbits at 60¢ each. With that money he could buy __ yd. of wire at 10¢ a yard.

2. Fred's rabbit pen is 12 feet square. He needs __ ft. of wire for a fence.

3. You will need __¢ to pay for $1\frac{1}{2}$ dozen eggs at 30¢ a dozen.

4. At 21¢ for 3 cans of milk, the price per can is __¢.

5. At 25¢ for 3 cans of soup, 50¢ will buy __ cans of soup.

6. When 4 bars of soap sell for 25¢, a dozen bars will cost __¢.

7. At 6¢ a pint, 3 qt. of milk cost __¢.

8. There are __ square feet in a rug 12 ft. long and 9 ft. wide.

9. Ben will need __ plants to set out 3 rows of cabbage plants with 8 plants in each row.

Practice in Division

1.	$3432 \div 8$	$4529 \div 6$	$7210 \div 5$	$7504 \div 7$
2.	$2801 \div 9$	$6928 \div 7$	$3488 \div 3$	$9647 \div 8$
3.	$6396 \div 7$	$4347 \div 8$	$5510 \div 6$	$3917 \div 4$
4.	$1712 \div 9$	$4914 \div 8$	$8148 \div 9$	$6704 \div 7$
5.	$1465 \div 6$	$1216 \div 6$	$9846 \div 8$	$7001 \div 5$

Unit 32. Mixed Practice

Add, Subtract, Multiply, or Divide?

Work the problems carefully.

1. A farmer sold 25 gallons of milk at 14¢ a quart. How much did he get for this milk?

2. A man had $1420 in the bank. He drew out enough money to pay for 7 acres of land at $58 an acre. How much did he have left in the bank?

3. Jack bought a cap for $1.25, a pair of shoes for $4.50, and a pair of mittens for 98¢. What was his change from a $10 bill?

4. Dick had $6.54 on May 1. In May he earned $5.40 and spent $4.65. How much did he have on hand at the end of the month?

5. An airplane flew a distance of 1148 miles in 7 hours. What was the average speed per hour?

6. Alice's grades for April were: arithmetic, 94; geography, 96; spelling, 98; history, 78; and writing, 84. Find her average grade.

7. At 47¢ a bushel, how much will a farmer get for 784 bushels of corn?

8. Ten acres of land were sold for $1440. What was the price per acre?

9. I have $17.50. How much more do I need to buy a suit for $25 and an overcoat for $18?

Changing Measures

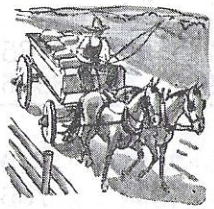
Read, and supply the missing numbers.

1.	4 qt. = __ gal.	16 qt. = __ gal.	24 qt. = __ gal.
2.	12 qt. = __ gal.	8 qt. = __ gal.	32 qt. = __ gal.
3.	4 pt. = __ qt.	10 pt. = __ qt.	8 pt. = __ qt.
4.	6 pt. = __ qt.	24 pt. = __ qt.	16 pt. = __ qt.
5.	8 qt. = __ pk.	24 qt. = __ pk.	48 qt. = __ pk.
6.	16 qt. = __ pk.	32 qt. = __ pk.	40 qt. = __ pk.
7.	9 ft. = __ yd.	12 ft. = __ yd.	21 ft. = __ yd.
8.	3 ft. = __ yd.	18 ft. = __ yd.	24 ft. = __ yd.
9.	12 in. = __ ft.	36 in. = __ ft.	24 in. = __ ft.
10.	16 oz. = __ lb.	32 oz. = __ lb.	48 oz. = __ lb.
11.	10 cents = __ dime	40 cents = __ dimes	
12.	80 cents = __ dimes	30 cents = __ dimes	
13.	10 dimes = __ quarters	30 dimes = __ quarters	
14.	15 dimes = __ quarters	20 dimes = __ quarters	
15.	40 dimes = __ dollars	20 dimes = __ dollars	
16.	50 dimes = __ dollars	10 dimes = __ dollar	
17.	60 dimes = __ dollars	30 dimes = __ dollars	
18.	70 dimes = __ dollars	90 dimes = __ dollars	
19.	8 quarters = $__	12 quarters = $__	
20.	24 quarters = $__	16 quarters = $__	
21.	5 gal. 3 qt. = __ qt.	8 qt. 1 pt. = __ pt.	
22.	2 bu. 3 pk. = __ pk.	1 lb. 8 oz. = __ oz.	

Problem Practice

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Then work the problems.

1. Ben saved $6.90. He bought a bat for $1.27 and a glove for $2.35. What did he have left?



2. If a team of horses goes 3 miles per hour, how long will it take to go 15 miles?

3. In a small school one teacher received $100 a month, the second $125 a month, and the third $120 a month. What was the average of the salaries?

4. An automobile dealer bought 7 cars at $665 each and sold them for $860 each. How much did he gain on these cars?

5. How many hair bows can you make out of 5 yd. of ribbon if each piece of ribbon for the bows is 9 in. long?

6. Ellen received the following marks in arithmetic for one week: 86, 83, 90, 87, and 89. What was her average mark in arithmetic for the week?

7. Three boys earned $1.50 by cutting a lawn and $1.35 by piling wood. What was each boy's share of the money earned?

8. A dealer bought 48 tons of coal at $6 a ton. The freight was $56.64. Find the total cost of the coal to the dealer.

Mixed Practice

Find the answers.

1.

697	604	968	374	985	472
×76	×503	×84	×52	×89	×68

2.

9592	3393	3621	7101	95078
−775	−2905	−2878	−4082	−46792

3.

4704	7687	9750	8111	88785
−3775	−2793	−2763	−7909	−28946

4.

204	277	132	958	786	549
916	936	863	619	459	786
237	749	542	846	897	678
676	698	279	746	676	959
790	323	376	376	879	474

5. $7\overline{)5067}$ $8\overline{)1900}$ $6\overline{)4002}$ $9\overline{)7005}$ $4\overline{)5012}$

Problems

1. A grocer buys brooms at \$4.80 a dozen and sells them at \$.55 each. How much does he gain on a dozen?

2. Ruth bought ribbon for 55¢ and gloves for \$1.85. What change did she get from \$5?

3. Twenty-two girls and 20 boys are seated in 7 equal rows of desks. How many desks are there in each row?

4. A farmer drives his truck an average of 12 miles on a gallon of gasoline. How many miles can he drive on 25 gallons of gasoline?

Problem Practice

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Then work the problems.

1. A grocer bought a bunch of 18 dozen bananas for \$2.35 and sold them for 24¢ a dozen. What was his profit?

2. A fruit dealer sold 11 dozen oranges at 45¢ per dozen and 24 dozen lemons for \$9.60. How much money did he receive?

3. Ray saved \$1.25, \$.75, and \$.70 in 3 weeks. What was his average weekly saving?

4. Fred bought a sweater for \$3.40 and a pair of shoes for \$2.75. What was his change from \$7?

5. How many eggs will it take to fill 18 boxes, each holding a dozen eggs?

6. A dealer bought 8 cases of eggs, each holding 30 dozen, at 27¢ a dozen. Find the cost.

7. A boy paid 3¢ each for 78 papers and sold them for 5¢ each. What did he make on one paper? How much money did he make in all?

8. A farmer raised 4860 bushels of corn. He sold 2465 bushels and used the rest on the farm. How many bushels did he use?

9. Helen went to the store with 50¢. After buying 3 boxes of berries at 12¢ a box, how much money did she have left?

10. At \$4 a square yard, what is the cost of a carpet 4 yards long and 3 yards wide?

Mixed Practice

Watch the signs. Find each answer.

1. 956 ×47	**2.** 817 ×85	**3.** 917 ×57	**4.** 8)1392	
5. 414 491 568 103 237	**6.** 80891 −48026	**7.** 54200 −36883	**8.** 487 693 824 549 292	
9. 72080 −38384	**10.** 37504 −25678			
11. 624 ×457	**12.** 874 ×36	**13.** 758 ×247	**14.** 7)1702	

Problem Practice

Work the problems.

1. We spent $360 a year for food and $480 for rent. What was the average per month for both?

EXPENSES

	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	
food													$360
rent													$480
total													

2. Find the cost of 3 ties for $2.00 and 4 shirts at $1.45 each.

3. Alice's father took a trip of 865 miles. He drove 239 miles the first day and 267 the second. How many miles remained?

4. A man earns $6 a day. How much money can he earn in 326 days?

5. Helen picked 9 qt. of berries which she sold for 6¢ a pint. How much did she get?

Eighth Self-Test

Test in Multiplication

Multiply and check:

1.	309 46	694 32	273 38	806 76	502 48	195 57
2.	466 54	324 86	295 97	407 89	307 57	718 94

Problem Test

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. If I place 135 chairs in rows of 9 chairs each, how many rows of chairs shall I have?

2. The tank of my car holds 14 gal. How much will gasoline to fill it cost at 19¢ per gallon?

3. Find the difference between $70.18 and $29.26.

4. How much less than 1206 is 317? What is the product of this difference and 24?

5. When a freight train travels 24 miles an hour, how far will it travel in 18 hours?

6. Ruth's mother bought a 12-pound ham at 24¢ a pound. What was her change from a $5 bill?

7. After Frank spent $3.75 for a pair of roller skates, he had $4.65 left. How much money did he have at first?

8. It cost 8 boys $34.00 for a camping trip. What was each boy's share of the cost?

Mixed Test

Find the answers.

1. 819 287 365 401 375	**2.** 745 271 432 809 834	**3.** 327 846 245 608 950	**4.** 944 717 564 709 712
5. $8\overline{)9570}$	**6.** 216 ×78	**7.** 739 ×36	**8.** $9\overline{)9807}$
9. 8447 −3482	**10.** 2427 −1968	**11.** 6432 −3844	**12.** $7\overline{)6381}$
13. 4624 −3839	**14.** 425 ×19	**15.** 657 ×42	**16.** $6\overline{)5362}$

Sight Work

1. At 3¢ each, a dozen pencils will cost __¢.

2. At 40¢ a dozen, 6 oranges will cost __¢.

3. At 25¢ a pound, 4 pounds of country butter will cost __¢.

4. Dick paid 50¢ for 3 rabbits and sold them for 35¢ each. His profit was __¢.

5. Ben paid 50¢ for 5 baby chicks and sold them for 15¢ each. His profit was __¢.

6. A rug is 4 feet wide and 6 feet long. Its area is __ square feet.

7. At 5¢ each, 6 apples will cost __¢.

Problem Test

For each step write on your paper A for add, S for subtract, M for multiply, or D for divide. Work the problems.

1. A man received $84 for building a garage. How much did he get for each day's work if he worked 7 days?

2. Jack bought 8 bars of soap at 6¢ a bar. What was his change from a one-dollar bill?

3. At a speed of 9 miles per hour, how long will it take a motorboat to travel 117 miles?

4. The Davis family pays $45 a month rent and $2.50 a month for telephone. How much do they pay for both in one year?

5. Ida saved these amounts in 5 weeks: 43¢, 29¢, 90¢, 57¢, and 71¢. What was the average amount she saved per week?

6. Charlotte's aunt gave each of four girls a handkerchief costing 24¢ and stockings costing $1.15. Find the cost of these gifts.

7. Helen earned 35¢ a day for 6 days. Her mother gave her 75¢. How much did she have in all?

8. Frank's father bought skates for Frank and his two brothers at $2.75 a pair. How much did all the skates cost?

9. Ray spends 12¢ a day for fare and 20¢ for lunch. How much does he spend for both in 20 days?

10. What is the cost of 4 lb. of steak at 42¢ a pound and 2 lb. of lard at 18¢ a pound?

Test in Multiplication

Multiply and check:

1.	309 ×46	806 ×76	694 ×32	173 ×38	466 ×54	502 ×48
2.	324 ×86	295 ×97	407 ×89	307 ×57	195 ×47	718 ×94

Mixed Practice

Watch the signs. Find the answers.

1.	6417 −1892	7239 −4367	9371 −7849	9477 −2879	8101 −7999
2.	8484 −1592	7639 −3895	8132 −2787	7947 −3258	9011 −4944
3.	597 ×76	864 ×35	869 ×54	613 ×89	759 ×98	468 ×87
4.	580 ×470	657 ×906	840 ×700	708 ×409	700 ×500	999 ×789
5.	931 348 219 145 826	836 328 477 284 599	628 773 906 422 534	449 902 196 283 584	669 686 357 596 298	586 469 599 722 319
6.	$8\overline{)4646}$	$6\overline{)7680}$	$9\overline{)8643}$	$7\overline{)6350}$	$4\overline{)1900}$	
7.	78+64+86+59			863+67+6+674+97		
8.	86+94+67+74		31×59		79×96	
9.	8435−3487		64×258		7406−989	

Testing Your Readiness for Next Year's Work

Practice in Addition

If you can do the work in the following pages satisfactorily, you know that you are ready for the next grade.

Add. Write sums on folded paper.

1	6 6	5 9	4 6	7 8	8 2	5 5	4 9	5 6	8 8
2	4 7	6 9	7 9	5 7	3 8	9 7	6 4	5 8	7 6
3	4 8	5 4	8 7	9 3	3 9	7 4	8 6	9 4	9 9
4	8 5	9 2	3 7	9 8	7 5	8 4	9 6	7 7	8 9
5	21 7	19 3	18 4	17 5	15 9	12 8	19 6	17 4	
6	16 5	18 6	19 4	18 8	16 7	19 5	17 7	19 9	
7	14 9	16 6	24 7	18 9	15 6	22 9	14 8	26 5	
8	16 9	15 8	18 7	16 8	29 6	19 7	23 8	11 9	

Practice in Addition

Add downward. Check by adding upward.

1

3	6	4	7	9	4	9	8	3
4	7	9	2	9	3	6	3	6
8	7	6	9	7	8	7	6	9

2

9	7	4	7	9	5	2	8	9
7	8	5	9	5	2	4	6	8
8	6	9	8	7	8	9	7	4

3

7	2	6	8	3	9	4	7	5
6	9	5	7	6	4	3	2	8
4	7	3	5	9	2	6	8	9
8	6	8	9	7	6	7	5	4

4

95	6	78	36	45	84	59	26
33	46	61	98	2	95	87	47
89	78	59	67	87	36	48	75

5

29	72	58	34	38	54	65	36
68	57	17	87	98	3	26	29
46	79	65	68	84	57	75	85
58	46	72	69	49	87	98	43

6

$18.00	$15.96	$32.45	$45.73	$76.87
15.73	76.45	5.37	7.95	53.09
19.69	3.97	48.65	65.73	74.80

7

$80.67	$12.60	$26.75	$36.85	$54.75
26.19	39.54	93.61	44.76	43.98
73.72	48.58	68.39	89.18	26.57

8 $5.68+$83.64+$7.39 68+479+87+6496

9 $75.69+$40.83+$.79 617+58+567+439

Practice in Subtraction

Subtract. Prove by adding subtrahend and remainder.

1

12	10	15	13	11	18	11	12
5	7	6	4	2	9	5	3

2

13	12	17	13	14	14	16	10
9	4	8	7	5	9	9	8

3

12	15	11	12	16	12	10	14
6	8	3	9	7	8	9	8

4

14	11	13	10	17	10	12	15
7	9	8	5	9	6	7	9

5

13	16	11	13	15	11	11	14
6	8	7	5	7	8	6	6

6

795	849	921	185	174	843
348	576	269	99	68	338

7

600	886	634	516	705	917
398	717	456	209	537	668

8

7183	6238	8140	5087	8224
3564	4773	2086	2329	2419

9

6108	8019	9481	6003	5709
3732	7122	3978	3089	3063

10

$9.78	$26.81	$48.00	$90.11	$59.23
4.93	15.77	20.75	36.48	24.65

11 $81.54−$56 $9.08−$4.75 $62.45−$36.28

Should You Add or Subtract?

1 Ruth bought an arithmetic for 76¢. What was her change from a dollar?

2 Ben bought a reader for $1.04, a speller for 44¢, and a tablet for 15¢. Find the cost.

3 In our school there are 824 children, of whom 419 are girls. How many boys are there?

4 Fred has saved $12.39. How much more money does he need to buy an $18.75 war bond?

5 In one month Mrs. Brown spent for groceries, $28.76, for meat, $13.95, and for milk, $6.82. Find the total amount she spent for food.

6 On May 1, Jack had $11.78. During the month, he earned $9.45. How much did he have on May 31?

7 On April 1, Jane had $18.52. On April 30, she had $9.76. How much had she spent during April?

8 Helen wants a dress that costs $7.49. She has $3.50. How much more money does she need?

9 Dick had $1.14, but when he came back from the store he had only 76¢. How much did he spend?

10 Frank was born in 1934. In what year will he be 14 years old?

11 Alice was born in 1933. How old was she in 1942?

12 Ray's mother paid a grocery bill of $24.36. What is her change from a $30 check?

13 It is 831 miles from New York to Chicago by one road, and 1052 miles from Chicago to Denver. How far is it from New York to Denver?

Practice in Multiplication

1	6	8	4	3	5	6	7	5	9
	4	2	4	9	5	3	3	9	8
2	8	4	7	5	9	4	3	8	6
	6	9	7	6	2	5	8	5	9
3	4	9	6	8	7	4	9	4	8
	6	3	5	4	9	8	6	7	8
4	8	7	8	2	7	5	6	9	7
	9	4	7	9	3	8	7	5	6
5	9	6	7	9	6	7	8	5	9
	7	6	8	4	8	5	3	7	9
6	33	52	41	37	71	94	19	82	
	7	6	9	5	6	3	7	8	
7	25	69	72	51	83	46	81	27	
	9	8	3	9	6	7	5	7	
8	23	36	61	36	99	86	41	89	
	8	4	7	9	6	3	6	9	
9	88	69	75	37	74	18	13	29	
	7	5	8	6	4	9	8	4	
10	49	47	58	16	46	38	45	39	
	6	9	4	9	8	7	5	8	
11	$1.47	$4.68	$9.57	$8.25	$7.09				
	6	5	8	4	7				

Practice in Multiplication

Multiply. To check, write the multiplier over the multiplicand and multiply again.

1	25	82	75	26	67	78	96	73
	25	64	46	19	38	29	26	38
2	96	73	92	97	49	76	26	36
	69	49	60	62	38	29	16	36
3	94	87	97	62	88	69	73	67
	92	57	61	48	88	59	37	47
4	87	79	73	97	94	86	62	69
	43	37	69	84	56	71	87	37
5	97	62	76	69	37	78	79	49
	95	39	46	48	25	68	18	47

Multiply. To check, multiply again.

6	269	409	845	306	629	570
	3	7	4	3	8	6
7	789	217	800	692	911	712
	9	5	9	4	7	9
8	602	926	707	485	721	854
	4	5	8	7	9	3
9	845	127	584	761	296	548
	9	3	5	8	6	6
10	3478	5086	7802	9008	6700	9000
	6	7	8	9	5	4

Practice in Multiplication

Multiply. Check your work.

1	478	596	302	940	964	570
	38	46	75	70	38	84
2	608	742	896	397	907	426
	96	26	95	29	67	83
3	800	245	568	538	688	679
	27	59	12	47	71	57

4	48×62	93×86	75×49	72×57	24×67
5	32×23	27×34	96×82	81×79	48×48
6	5×783	6×496	8×725	9×483	70×80
7	73×605	52×840	96×700	58×714	94×600

8	$.84	$4.60	$9.35	$3.09	$7.50	$6.75
	9	8	7	6	5	8
9	$.48	$3.15	$6.25	$8.50	$9.12	$5.09
	24	52	36	16	42	25
10	$.78	$2.60	$6.80	$4.08	$6.01	$8.33
	32	50	75	45	92	61
11	$.57	$1.08	$5.64	$3.75	$4.70	$4.05
	40	65	106	208	305	107

12	$.75×9	$5.67×35	$8.06×53	$15.45×605
13	$75×24	$6.19×68	$4.85×70	$26.11×740
14	$350×6	$3.50×60	$4500×85	$2560×600

Should You Add, Subtract, or Multiply?

For each problem, write A, S, or M. Then find the answers.

1 An orchard has 45 rows of apple trees with 60 trees in each row. How many trees are there?

2 Ben has saved \$7.25 toward buying a used bicycle costing \$14.50. How much more money must he have?

3 In March Jack saved \$3.76, in April \$4.28, and in May \$2.08. How much did he save in the 3 months?

4 At an average speed of 56 miles an hour, how far will a train go in 16 hours?

5 Jane's mother paid 48¢ per pound for a 14-pound ham. What was the cost of the ham?

6 Mr. Jones worked 48 hours at \$1.35 an hour. How much did he earn?

7 Fred wants an overcoat costing \$12.50, a suit at \$15, and a pair of shoes at \$4.89. How much money will he need to pay for them?

8 In a test of 48 words, Ray missed 9 words. How many words did he spell correctly?

9 At \$12.75 per ton, what do 28 tons of coal cost?

10 On January 1, our car had gone 9638 miles. By July 1, it had gone 11,467 miles. How far was the car driven in these six months?

11 A rug marked at \$49 was put on sale at \$37.98. How much was the price reduced?

12 At \$37.50 per month, what will it cost to rent a house for one year?

Practice in Division Facts

Be sure that you can divide the following. Write answers on folded paper.

1	$4\overline{)8}$	$6\overline{)12}$	$3\overline{)12}$	$8\overline{)16}$	$5\overline{)10}$	$4\overline{)24}$
2	$5\overline{)15}$	$9\overline{)18}$	$7\overline{)14}$	$6\overline{)18}$	$4\overline{)20}$	$8\overline{)40}$
3	$2\overline{)18}$	$8\overline{)32}$	$4\overline{)16}$	$5\overline{)20}$	$7\overline{)28}$	$9\overline{)63}$
4	$7\overline{)21}$	$2\overline{)16}$	$8\overline{)48}$	$6\overline{)30}$	$5\overline{)25}$	$2\overline{)14}$
5	$5\overline{)30}$	$9\overline{)54}$	$3\overline{)9}$	$6\overline{)24}$	$9\overline{)27}$	$8\overline{)24}$
6	$4\overline{)28}$	$3\overline{)6}$	$4\overline{)36}$	$6\overline{)42}$	$4\overline{)12}$	$7\overline{)35}$
7	$6\overline{)36}$	$3\overline{)15}$	$7\overline{)42}$	$8\overline{)56}$	$5\overline{)40}$	$9\overline{)72}$
8	$3\overline{)24}$	$7\overline{)49}$	$9\overline{)36}$	$8\overline{)72}$	$4\overline{)32}$	$6\overline{)48}$
9	$9\overline{)45}$	$2\overline{)12}$	$8\overline{)64}$	$3\overline{)18}$	$5\overline{)45}$	$7\overline{)63}$
10	$7\overline{)56}$	$3\overline{)27}$	$9\overline{)81}$	$6\overline{)54}$	$3\overline{)21}$	$5\overline{)35}$
11	$\frac{1}{2}$ of 8	$\frac{1}{3}$ of 6	$\frac{1}{4}$ of 4	$\frac{1}{5}$ of 10		
12	$\frac{1}{7}$ of 21	$\frac{1}{8}$ of 24	$\frac{1}{9}$ of 18	$\frac{1}{6}$ of 30		
13	$\frac{1}{4}$ of 32	$\frac{1}{5}$ of 40	$\frac{1}{3}$ of 24	$\frac{1}{9}$ of 36		
14	$\frac{1}{8}$ of 48	$\frac{1}{7}$ of 28	$\frac{1}{6}$ of 24	$\frac{1}{9}$ of 27		
15	$\frac{1}{5}$ of 25	$\frac{1}{6}$ of 36	$\frac{1}{9}$ of 72	$\frac{1}{7}$ of 35		
16	$\frac{1}{7}$ of 49	$\frac{1}{5}$ of 30	$\frac{1}{8}$ of 64	$\frac{1}{6}$ of 42		
17	$\frac{1}{6}$ of 48	$\frac{1}{8}$ of 56	$\frac{1}{9}$ of 45	$\frac{1}{7}$ of 56		
18	$\frac{1}{8}$ of 32	$\frac{1}{9}$ of 81	$\frac{1}{7}$ of 63	$\frac{1}{6}$ of 54		

Division with Remainders

Divide the following. Prove your answers.

1	2)7	3)5	4)9	7)10	6)8	5)11
2	6)10	8)11	2)9	9)12	3)7	9)15
3	7)12	4)14	9)17	6)14	5)21	8)19
4	8)29	6)21	7)23	9)20	2)11	9)25
5	7)51	5)13	9)29	4)11	8)31	6)17
6	8)35	2)13	7)39	3)13	5)34	9)33
7	9)38	3)8	6)23	9)41	3)22	8)38
8	6)28	8)50	5)27	7)54	9)49	6)32
9	3)29	4)19	8)45	2)17	7)47	9)46
10	6)35	2)19	9)51	4)23	7)22	7)61
11	5)18	7)65	3)10	8)59	3)16	9)59
12	9)60	3)20	6)40	9)62	4)25	8)62
13	9)67	4)31	7)69	3)25	9)70	8)57
14	7)59	8)69	3)17	9)71	6)44	9)47
15	8)71	9)85	5)36	6)45	7)66	9)87
16	7)30	5)42	6)50	4)38	7)48	6)53
17	9)89	7)40	6)51	8)75	5)37	9)75
18	8)79	5)49	8)60	9)80	7)60	6)58

Practice in Division

Divide the following. Prove your answers.

1	2)46	3)39	4)84	2)66	3)96	4)4 8
2	2)128	3)155	4)168	5)255	7)497	9)8 19
3	2)136	3)171	5)455	3)927	4)824	7)2 31
4	3)204	5)475	4)208	6)636	5)354	8)6 42
5	9)954	7)889	6)972	5)875	4)308	8)4 38
6	4)179	3)280	5)708	6)218	7)504	3)2 29
7	5)124	8)397	7)563	6)525	9)330	4)2 59
8	6)628	5)343	9)473	4)114	7)325	8)5 25
9	4)293	9)621	6)481	8)311	5)178	7)6 52
10	8)667	5)399	6)215	9)670	4)159	7)6 54
11	7)492	3)207	8)755	5)237	6)555	9)7 51
12	9)231	7)277	6)280	8)461	5)417	4)3 11
13	7)584	5)231	9)880	6)450	4)187	8)1 34
14	3)271	8)581	6)322	7)406	4)121	9)4 20
15	4)816	7)183	9)504	6)181	8)763	2)2 78
16	5)462	8)493	4)361	7)571	9)725	6)6 4
17	5)549	9)628	6)200	8)748	6)388	7)7 9
18	7)600	5)403	8)565	6)593	9)703	6)5 0

Division with Remainders

Divide the following. Prove your answers.

1	2)7	3)5	4)9	7)10	6)8	5)11
2	6)10	8)11	2)9	9)12	3)7	9)15
3	7)12	4)14	9)17	6)14	5)21	8)19
4	8)29	6)21	7)23	9)20	2)11	9)25
5	7)51	5)13	9)29	4)11	8)31	6)17
6	8)35	2)13	7)39	3)13	5)34	9)33
7	9)38	3)8	6)23	9)41	3)22	8)38
8	6)28	8)50	5)27	7)54	9)49	6)32
9	3)29	4)19	8)45	2)17	7)47	9)46
10	6)35	2)19	9)51	4)23	7)22	7)61
11	5)18	7)65	3)10	8)59	3)16	9)59
12	9)60	3)20	6)40	9)62	4)25	8)62
13	9)67	4)31	7)69	3)25	9)70	8)57
14	7)59	8)69	3)17	9)71	6)44	9)47
15	8)71	9)85	5)36	6)45	7)66	9)87
16	7)30	5)42	6)50	4)38	7)48	6)53
17	9)89	7)40	6)51	8)75	5)37	9)75
18	8)79	5)49	8)60	9)80	7)60	6)58

Practice in Division

Divide the following. Prove your answers.

1	2)46	3)39	4)84	2)66	3)96	4)48
2	2)128	3)155	4)168	5)255	7)497	9)819
3	2)136	3)171	5)455	3)927	4)824	7)231
4	3)204	5)475	4)208	6)636	5)354	8)642
5	9)954	7)889	6)972	5)875	4)308	8)488
6	4)179	3)280	5)708	6)218	7)504	3)729
7	5)124	8)397	7)563	6)525	9)330	4)259
8	6)628	5)343	9)473	4)114	7)325	8)525
9	4)293	9)621	6)481	8)311	5)178	7)662
10	8)667	5)399	6)215	9)670	4)159	7)854
11	7)492	3)207	8)755	5)237	6)555	9)751
12	9)231	7)277	6)280	8)461	5)417	4)341
13	7)584	5)231	9)880	6)450	4)187	8)184
14	3)271	8)581	6)322	7)406	4)121	9)420
15	4)816	7)183	9)504	6)181	8)763	2)278
16	5)462	8)493	4)361	7)571	9)725	6)654
17	5)549	9)628	6)200	8)748	6)388	7)749
18	7)600	5)403	8)565	6)593	9)703	6)500

Should You Multiply or Divide?

For each problem write on your paper M or D. Then work the problems.

1 A bushel of shelled corn weighs 56 lb. What is the weight of 65 bu. of shelled corn?

2 When coal sells at $9 a ton, how many tons of coal can be bought for $135?

3 Helen bought 8 yd. of ribbon for $1.20. What was the price per yard?

4 At an average speed of 6 mi. per hour, how long will it take a motor boat to go 48 mi.?

5 At an average speed of 27 mi. per hour, how far will a freight train travel in 36 hr.?

6 An airplane flew 1146 miles in 6 hours. What was the average speed per hour?

7 At 65¢ per gallon, what is the cost of 18 gallons of milk?

8 A lot is 237 feet long. What is the length in yards?

9 Eight boys shared 712 used stamps equally. How many stamps should each boy get?

10 Ray's father paid $750 for 6 acres of land. What was the price per acre?

11 At $175 per acre, what is the cost of 160 acres of land?

12 When a half dozen cans of corn sell at 78¢, what is the price per can?

Problem Practice

For each step write on your paper A, S, M, or D. Then work the problems.

1 A lot is 180 ft. long and 35 ft. wide. How many feet of fence will be needed to go around it?

2 A porch is 26 ft. long and 11 ft. wide. Find the area of the floor in square feet.

3 If 256 pear trees are planted in 8 equal rows, how many trees will there be in each row?

4 A wood lot of 7 acres was sold for $539. What was the price per acre?

5 Ben has 75¢. How much more does he need to buy a cap for 69¢ and a knife for 58¢?

6 Fred bought 3 shirts at 89¢ each. What was his change from a $5 bill?

7 When lemons sell at 3 for 11¢, what will a dozen lemons cost?

8 Jane bought 3 yards of gingham at 32¢ a yard and a dozen buttons for 19¢. Find the cost of these.

9 Mr. Miller paid $980 for a lot and built a house for $5750. He sold the property for $7900. Find his gain.

10 At $1.15 per tree, what will be the cost of 15 rows of peach trees with 17 trees in each row?

11 At 26¢ per can, what is the cost of 2 dozen and 4 cans of peaches?

12 On May 1, Jack had $8.59. In May he earned $6.15 and spent $5.75. How much did he have then?

Changing Measures

Copy these examples. Write the missing numbers.

1 $1\frac{1}{2}$ ft. = __ in. $1\frac{1}{3}$ ft. = __ in. $1\frac{1}{4}$ ft. = __ in.

2 $1\frac{1}{2}$ yd. = __ ft. $1\frac{1}{3}$ yd. = __ ft. $1\frac{1}{4}$ yd. = __ in.

3 $1\frac{1}{2}$ yd. = __ in. $1\frac{1}{3}$ yd. = __ in. $1\frac{1}{9}$ yd. = __ in.

4 $1\frac{1}{2}$ lb. = __ oz. $1\frac{1}{4}$ lb. = __ oz. $1\frac{1}{8}$ lb. = __ oz.

5 3 gal. = __ qt. 4 gal. = __ qt. 8 qt. = __ pt.

6 $1\frac{1}{2}$ gal. = __ qt. $1\frac{1}{4}$ gal. = __ pt. $2\frac{1}{2}$ qt. = __ pt.

7 $1\frac{1}{3}$ hr. = __ min. $1\frac{1}{4}$ min. = __ sec. $1\frac{1}{3}$ yr. = __ mo.

8 1 ft. 3 in. = __ in. 2 ft. 4 in. = __ in.

9 3 ft. 2 in. = __ in. 1 ft. 9 in. = __ in.

10 2 qt. 1 pt. = __ pt. 4 gal. 3 qt. = __ qt.

11 1 lb. 7 oz. = __ oz. 3 lb. 8 oz. = __ oz.

12 6 yd. 3 ft. = __ ft. 8 yd. 2 ft. = __ ft.

13 3 yr. 4 mo. = __ mo. 2 yr. 11 mo. = __ mo.

14 2 hr. 15 min. = __ min. 2 min. 25 sec. = __ sec.

15 16 ft. = __ yd. __ ft. 11 ft. = __ yd. __ ft.

16 40 oz. = __ lb. __ oz. 19 qt. = __ gal. __ qt.

17 28 mo. = __ yr. __ mo. 13 pt. = __ qt. __ pt.

18 75 min. = __ hr. __ min. 95 sec. = __ min. __ sec.

19 $1\frac{1}{2}$ yd. = __ ft. __ in. 18 da. = __ wk. __ da.

20 23 oz. = __ lb. __ oz. 89 min. = __ hr. __ min.

21 90 mo. = __ yr. __ mo. 100 sec. = __ min. __ sec.

22 67 in. = __ ft. __ in. 50 qt. = __ gal. __ qt.

23 45 in. = __ yd. __ in. 40 hr. = __ da. __ hr.

Problem Practice

For each step write on your paper A, S, M, or D. Then work the problems.

1 At a speed of 40 miles per hour, how long will it take a train to travel 560 miles?

2 Mrs. Allen bought a 14-pound ham at 47¢ a pound. What was her change from a $10 bill?

3 If you buy 3 dozen eggs at 48¢ per dozen and a pound of butter for 53¢, what is the change from $2?

4 When an auto runs 16 mi. on a gallon of gasoline, how far will it run on 9 gallons?

5 I have $2.17. How much more do I need to buy 12 cans of apricots at 23¢ a can?

6 From 8 acres of land, 536 bu. of corn were harvested. What was the yield per acre?

7 Ray had $1.08. Then he was paid 25¢ an hour for 14 hours work. How much did he have in all?

8 A grocer bought a box of 87 apples for $2.75. He sold them at 4¢ each. What did he gain?

9 At 27¢ per can, what is the cost of 6 dozen cans of pears?

10 Dick paid $7.50 for a used bicycle, spent $2.65 for repairs, and sold it for $12. Find his gain.

11 At 28¢ per quart, what is the cost of 5 gallons of motor oil?

12 One day Fred sold 38 melons at 15¢ each and 5 dozen sweet corn at 25¢ per dozen. How much did he get for these?

Mixed Practice

Find the answers.

1 94×608 $\quad 75\times427$ $\quad 56\times823$ $\quad 83\times940$

2 68×347 $\quad 54\times788$ $\quad 39\times806$ $\quad 47\times648$

3

8103	7265	6011	9637	4911
−709	−4193	−2888	−6428	−1999

4

3600	7004	5030	8306	5333
−1689	−4238	−2609	−7208	−2777

5 $4\overline{)647}$ $\quad 6\overline{)962}$ $\quad 7\overline{)901}$ $\quad 3\overline{)117}$ $\quad 8\overline{)648}$ $\quad 9\overline{)700}$

6 $5\overline{)906}$ $\quad 9\overline{)609}$ $\quad 4\overline{)300}$ $\quad 6\overline{)411}$ $\quad 7\overline{)503}$ $\quad 8\overline{)450}$

7 $2\overline{)538}$ $\quad 3\overline{)715}$ $\quad 6\overline{)592}$ $\quad 9\overline{)722}$ $\quad 8\overline{)336}$ $\quad 7\overline{)539}$

8 $4\overline{)4371}$ $\quad 5\overline{)4906}$ $\quad 8\overline{)4872}$ $\quad 9\overline{)9294}$ $\quad 6\overline{)4000}$

9

648	807	935	875	560	608
×26	×39	×408	×68	×370	×409

10

720	677	926	428	806	864
×600	×406	×89	×67	×79	×64

11 $482\div7$ $\quad 659\div9$ $\quad 387\div5$ $\quad 861\div8$

12 $707\div4$ $\quad 380\div7$ $\quad 942\div8$ $\quad 799\div6$

13

426	73	6	479	997	768
74	962	84	43	98	926
9	87	843	726	96	32
836	8	529	59	805	479

14

527	458	259	354	837	758
368	634	475	657	568	463
175	786	594	836	623	584

Additional Material In Long Division

This material is added for those schools that desire to give more attention to long division in the fourth grade.

Division by Two-Figure Divisors

1 At an average speed of 20 miles an hour, how many hours will it take a boat to go 480 miles?

The five steps in long division are: **divide, multiply, subtract, compare,** and **bring down.**

Divide: First divide 48 by 20.
Think $2\overline{)4}$. Write 2 above 8.
Multiply: $2\times20=40$. Write 40.
Subtract: $48-40=8$. Write 8.
Compare: 8 is less than the divisor, 20.
Bring down 0 to make 80.
Divide: Think $2\overline{)8}$. Write 4 above 0.
Then multiply and subtract. The answer is 24 hr.

```
   24
20)480
   40
   80
   80
```

2 Divide 96 by 30.
Divide: Think $3\overline{)9}$. Write 3 above 6.
Multiply: $3\times30=90$. Write 90.
Subtract: $96-90=6$. Write 6.

```
  3r6
30)96
   90
    6
```

Divide the following. Prove your answers.

3

3r16	5r5	7r25	5r15	
20)76	60)305	50)375	80)415	
60	300	350	400	
16	5	25	15	

4 $20\overline{)89}$ $\quad 70\overline{)510}$ $\quad 30\overline{)105}$ $\quad 50\overline{)114}$ $\quad 60\overline{)131}$

5 $60\overline{)400}$ $\quad 40\overline{)328}$ $\quad 90\overline{)280}$ $\quad 70\overline{)205}$ $\quad 80\overline{)495}$

Dividing by 11

Copy the numbers below and write the products:

1

11	11	11	11	11	11	11	11
×2	×3	×4	×5	×6	×7	×8	×9

2 Write the quotients in the following:

11)22 11)33 11)44 11)55 11)66 11)77 11)88 11)99

3 Divide 37 by 11.

Divide: Think 11)37. Write 3.
Multiply: 3×11=33. Write 33.
Subtract: 37−33=4. Write 4.
Compare: 4 is less than the divisor, 11.
The answer is 3*r*4. Proof: 3×11+4=37.

```
   3r4
11)37
   33
    4
```

4 Divide 108 by 11.

Divide: Think 11)108. Write 9 above 8.
Multiply: 9×11=99. Write 99.
Subtract: 108−99=9. Write 9.
Compare: 9 is less than the divisor, 11.
The answer is 9*r*9. Proof: 9×11+9=108.

```
   9r9
11)108
   99
    9
```

Divide the following. Prove your answers.

5	11)24	11)27	11)31	11)39	11)40	11)21
6	11)19	11)74	11)86	11)68	11)93	11)50
7	11)81	11)75	11)65	11)101	11)82	11)32
8	11)54	11)57	11)77	11)105	11)91	11)60
9	11)72	11)87	11)94	11)109	11)58	11)45
10	11)29	11)80	11)49	11)111	11)64	11)85

Zeros in the Quotient

1 Divide 780 by 11.

Divide: Think 11)78. Write 7 above 8.
Multiply: 7×11=77. Write 77.
Subtract: 78−77=1. Write 1 and bring down 0 to make 10.
Divide: Think 11)10. Write 0 above 0.
The answer is 70 *r*10. Proof: 11×70+10=780.

```
   70 r10
11)780
   77
   10
```

Study the steps in each example below:

2

```
   80          90 r7       30 r16      10 r10
11)880      11)997      30)916      50)510
 88          99          90          50
  0           7          16          10
```

3

```
   25          54 r6       72 r9       83 r9
11)275      11)600      11)801      11)922
 22          55          77          88
 55          50          31          42
 55          44          22          33
              6           9           9
```

Divide the following. Prove your work.

4	11)451	11)465	11)446	11)407	11)300
5	11)356	11)453	11)618	11)220	11)480
6	20)705	11)587	60)608	11)397	40)968
7	11)884	60)974	30)610	11)500	11)483
8	90)857	11)918	11)835	11)754	11)629
9	11)886	70)732	11)605	11)597	11)934

Dividing by 12

It is often useful to know the product of 12 and a number from 1 to 9.

Copy the following and find the products:

1 $\begin{array}{r} 12 \\ \underline{2} \end{array}$ $\begin{array}{r} 12 \\ \underline{3} \end{array}$ $\begin{array}{r} 12 \\ \underline{4} \end{array}$ $\begin{array}{r} 12 \\ \underline{5} \end{array}$ $\begin{array}{r} 12 \\ \underline{6} \end{array}$ $\begin{array}{r} 12 \\ \underline{7} \end{array}$ $\begin{array}{r} 12 \\ \underline{8} \end{array}$ $\begin{array}{r} 12 \\ \underline{9} \end{array}$

Use products of 12 to find the missing numbers.

2 1 doz. =__ 4 doz. =__ 6 doz. =__

3 3 doz. =__ 5 doz. =__ 2 doz. =__

4 7 doz. =__ 8 doz. =__ 9 doz. =__

5 $1\frac{1}{2}$ doz. =__ $2\frac{1}{2}$ doz. =__ $3\frac{1}{2}$ doz. =__

6 $1\frac{1}{3}$ doz. =__ $1\frac{1}{4}$ doz. =__ $2\frac{1}{4}$ doz. =__

7 16 =__ doz. and __ 19 =__ doz. and __

8 30 =__ doz. and __ 34 =__ doz. and __

9 38 =__ doz. and __ 40 =__ doz. and __

10 26 =__ doz. and __ 29 =__ doz. and __

11 50 =__ doz. and __ 56 =__ doz. and __

12 63 =__ doz. and __ 74 =__ doz. and __

13 88 =__ doz. and __ 91 =__ doz. and __

14 99 =__ doz. and __ 105 =__ doz. and __

15 47 =__ doz. and __ 100 =__ doz. and __

16 121 =__ doz. and __ 125 =__ doz. and __

17 19 in. =__ ft. __ in. 28 in. =__ ft. __ in.

18 41 in. =__ ft. __ in. 55 in. =__ ft. __ in.

19 67 in. =__ ft. __ in. 78 in. =__ ft. __ in.

20 89 in. =__ ft. __ in. 98 in. =__ ft. __ in.

Dividing by 12

1 A doctor rented an office for $540 a year. How much was the rent per month?

Divide 54 by 12. Then multiply, subtract, compare, and bring down 0.

Divide 60 by 12. Then multiply and subtract. The answer is $45.

Proof: $12 \times 45 = 540$.

$$\begin{array}{r} 45 \\ 12\overline{)540} \\ 48 \\ \hline 60 \\ 60 \\ \hline \end{array}$$

2 A champion hen laid 329 eggs in one year. How many dozen eggs did this hen lay?

Divide 32 by 12. Then multiply, subtract, compare, and bring down 9.

Divide 89 by 12. Then multiply, subtract, and compare. The answer is 27 dozen and 5 eggs.

Proof: $12 \times 27 + 5 = 329$.

$$\begin{array}{r} 27 \text{ r}5 \\ 12\overline{)329} \\ 24 \\ \hline 89 \\ 84 \\ \hline 5 \end{array}$$

Divide the following. Prove your work.

3 $12\overline{)204}$ $12\overline{)194}$ $12\overline{)276}$ $12\overline{)226}$ $12\overline{)650}$

4 $12\overline{)386}$ $12\overline{)698}$ $12\overline{)420}$ $12\overline{)775}$ $12\overline{)408}$

5 $12\overline{)564}$ $12\overline{)984}$ $12\overline{)492}$ $12\overline{)829}$ $12\overline{)850}$

6 $12\overline{)783}$ $12\overline{)936}$ $12\overline{)589}$ $12\overline{)870}$ $12\overline{)743}$

7 $12\overline{)965}$ $11\overline{)670}$ $12\overline{)600}$ $12\overline{)665}$ $11\overline{)801}$

8 $10\overline{)780}$ $10\overline{)365}$ $60\overline{)849}$ $30\overline{)367}$ $12\overline{)144}$

9 $12\overline{)119}$ $11\overline{)104}$ $11\overline{)745}$ $11\overline{)832}$ $11\overline{)941}$

10 $60\overline{)612}$ $20\overline{)117}$ $90\overline{)911}$ $12\overline{)900}$ $11\overline{)700}$

Practice in Division

Divide the following and prove:

1	12)47	12)49	12)59	12)62	12)37
2	12)80	12)87	12)75	12)55	12)70
3	12)88	12)92	12)99	12)94	12)77
4	12)83	12)90	12)71	12)73	12)68
5	12)23	12)27	12)33	12)39	12)19
6	11)418	12)941	11)327	12)347	11)792
7	12)604	12)621	11)782	12)398	11)506
8	12)437	11)645	11)450	11)436	12)480
9	11)824	12)456	11)491	11)638	60)960
10	12)876	11)794	80)960	11)409	12)801
11	11)592	12)826	11)549	12)965	40)983

Problems

1 How many months are there in 7 yr. 9 mo.?

2 How many years and months are there in 118 months?

3 How many feet and inches are there in 79 in.?

4 Mr. White receives a salary of $2280 per year. How much does he earn per month?

5 At an average speed of 50 miles an hour, how long will it take a train to run 750 miles?

Using Two-Figure Divisors

1 Divide 84 by 21.

Since 21 is near 20, you may use 20 in estimating the quotient figure.

Divide: Think $84 \div 20$ (or $8 \div 2$). Write 4 above 4.
Multiply: $4 \times 21 = 84$. Write 84.
Subtract: $84 - 84 = 0$.
The quotient is 4. Proof: $4 \times 21 = 84$.

```
   4
21)84
  84
```

2 Divide 95 by 23.

Divide: Think $2\overline{)9}$. Write 4 above 5.
Multiply: $4 \times 23 = 92$. Write 92.
Subtract: $95 - 92 = 3$. Write 3.
Compare: 3 is less than 23.
The answer is 4 *r*3. Proof: $4 \times 23 + 3 = 95$.

```
  4 r3
23)95
  92
   3
```

Divide the following. Prove your answers.

3	3 r9 22)75 66 9	3 r2 31)95 93 2	2 r19 32)83 64 19	2 r5 41)87 82 5	
4	21)63	13)26	41)82	32)64	22)96
5	13)39	31)93	33)99	13)28	42)84
6	23)46	22)66	32)68	43)86	32)96
7	12)29	21)65	22)68	23)48	22)90
8	21)48	23)35	31)97	41)87	21)89
9	21)34	31)41	21)54	20)75	22)55
10	42)97	32)68	41)94	43)98	23)56

Practice in Division

1 Divide 6779 by 22.

Divide: Think $2\overline{)6}$. Write 3 as shown.
Multiply: $3 \times 22 = 66$. Write 66.
Subtract: $67 - 66 = 1$. Write 1.
Compare: 1 is less than the divisor, 22.
Bring down 7 to make 17.

$$\begin{array}{r} 308\ r3 \\ 22\overline{)6779} \\ 66 \\ \hline 179 \\ 176 \\ \hline 3 \end{array}$$

Divide 17 by 22. Write 0. Bring down 9. Divide 179 by 22 (or 17 by 2). Write 8. Multiply 22 by 8 and subtract 176 from 179.

Divide the following. Prove your answers.

2

60 *r*19	303 *r*22	38 *r*2	66 *r*14
$23\overline{)1399}$	$32\overline{)9718}$	$42\overline{)1598}$	$31\overline{)2060}$
138	96	126	186
19	118	338	200
	96	336	186
	22	2	14

3	$21\overline{)462}$	$21\overline{)671}$	$21\overline{)882}$	$21\overline{)176}$	$21\overline{)1281}$
4	$32\overline{)679}$	$42\overline{)946}$	$33\overline{)714}$	$43\overline{)907}$	$52\overline{)2847}$
5	$22\overline{)904}$	$23\overline{)726}$	$43\overline{)179}$	$33\overline{)825}$	$43\overline{)3801}$
6	$21\overline{)843}$	$32\overline{)996}$	$42\overline{)940}$	$43\overline{)900}$	$33\overline{)2997}$
7	$13\overline{)456}$	$32\overline{)478}$	$42\overline{)983}$	$52\overline{)675}$	$12\overline{)4990}$

Write the products. Do not copy the numbers.

8	4×21	3×32	4×45	4×34	6×24
9	6×27	8×23	7×25	5×43	4×68
10	9×23	7×34	6×53	6×25	8×64
11	5×82	6×44	9×45	8×43	7×52

Practice in Division

1 The following practice will help you in division. Multiply each number in line A by each number in line B. Write products only. Use folded paper.

A	24	57	62	38	93	76	49	85
B	6	3	5	9	4	8	2	7

Divide the following. Prove your answers.

2	$21\overline{)168}$	$21\overline{)172}$	$31\overline{)124}$	$21\overline{)96}$	$31\overline{)651}$
3	$31\overline{)980}$	$21\overline{)189}$	$21\overline{)194}$	$22\overline{)69}$	$22\overline{)790}$
4	$21\overline{)149}$	$31\overline{)186}$	$21\overline{)128}$	$23\overline{)74}$	$21\overline{)681}$
5	$31\overline{)217}$	$22\overline{)138}$	$21\overline{)115}$	$42\overline{)89}$	$31\overline{)112}$
6	$30\overline{)941}$	$42\overline{)568}$	$22\overline{)689}$	$20\overline{)425}$	$31\overline{)298}$
7	$21\overline{)379}$	$40\overline{)125}$	$21\overline{)109}$	$32\overline{)990}$	$21\overline{)514}$
8	$33\overline{)108}$	$21\overline{)175}$	$20\overline{)185}$	$21\overline{)155}$	$22\overline{)766}$
9	$21\overline{)368}$	$31\overline{)259}$	$21\overline{)199}$	$21\overline{)1491}$	$13\overline{)289}$
10	$31\overline{)480}$	$21\overline{)458}$	$32\overline{)764}$	$31\overline{)1612}$	$43\overline{)758}$
11	$32\overline{)745}$	$41\overline{)527}$	$12\overline{)347}$	$21\overline{)1713}$	$12\overline{)356}$
12	$33\overline{)400}$	$51\overline{)496}$	$33\overline{)298}$	$31\overline{)1065}$	$23\overline{)586}$
13	$23\overline{)650}$	$43\overline{)816}$	$51\overline{)846}$	$23\overline{)736}$	$33\overline{)677}$
14	$21\overline{)435}$	$22\overline{)709}$	$42\overline{)758}$	$41\overline{)347}$	$32\overline{)677}$
15	$40\overline{)587}$	$24\overline{)115}$	$43\overline{)345}$	$53\overline{)780}$	$51\overline{)789}$
16	$23\overline{)460}$	$62\overline{)760}$	$13\overline{)278}$	$33\overline{)784}$	$43\overline{)900}$

Divisors Ending in 7, 8, and 9

1 Divide 95 by 29. Since 29 is nearly 30, you may use 30 to find the quotient figure. Think $3\overline{)9}$. Write 3. Then multiply and subtract. The answer is 3 *r*8. Proof: $3\times29+8=95$.

$$\begin{array}{r} 3\ r8 \\ 29\overline{)95} \\ 87 \\ \hline 8 \end{array}$$

2 Divide 362 by 38. Think $4\overline{)36}$. Write 9. Then multiply and subtract. The answer is 9 *r*20. Proof: $9\times38+20=362$.

$$\begin{array}{r} 9\ r20 \\ 38\overline{)362} \\ 342 \\ \hline 20 \end{array}$$

It will often save time to think of such divisors as 39, 48, 59, 69, 78, 89, as 40, 50, 60, 70, 80, 90.

Divide the numbers below. Prove the answers.

3	$89\overline{)369}$	$49\overline{)240}$	$69\overline{)897}$	$58\overline{)564}$	$48\overline{)648}$
4	$38\overline{)829}$	$29\overline{)620}$	$78\overline{)882}$	$59\overline{)902}$	$88\overline{)229}$
5	$79\overline{)209}$	$89\overline{)318}$	$98\overline{)500}$	$88\overline{)326}$	$69\overline{)104}$
6	$98\overline{)103}$	$97\overline{)715}$	$78\overline{)946}$	$68\overline{)142}$	$87\overline{)935}$
7	$39\overline{)980}$	$57\overline{)800}$	$68\overline{)854}$	$28\overline{)500}$	$19\overline{)314}$
8	$37\overline{)411}$	$18\overline{)244}$	$67\overline{)780}$	$49\overline{)582}$	$87\overline{)500}$
9	$78\overline{)850}$	$79\overline{)918}$	$57\overline{)800}$	$39\overline{)228}$	$78\overline{)568}$
10	$67\overline{)857}$	$89\overline{)900}$	$48\overline{)789}$	$89\overline{)956}$	$77\overline{)897}$
11	$87\overline{)789}$	$68\overline{)873}$	$67\overline{)895}$	$77\overline{)400}$	$68\overline{)568}$
12	$79\overline{)984}$	$28\overline{)178}$	$58\overline{)403}$	$67\overline{)800}$	$49\overline{)117}$
13	$58\overline{)567}$	$27\overline{)890}$	$89\overline{)237}$	$59\overline{)936}$	$47\overline{)467}$

Help in Finding the Quotient Figure

1 Divide 187 by 26.

$$\begin{array}{r} 7\ r5 \\ 26\overline{)187} \\ 182 \\ \hline 5 \end{array}$$

The most important step in long division is finding the quotient figures. If you try 9 as the quotient figure, you will find that 9×26, or 234, is larger than 187. Also, 8×26, or 208, is too large. The correct quotient figure is 7. $7\times26=182$. $187-182=5$. The remainder, 5, is less than the divisor.

Study the examples below. Then copy the numbers and divide without looking at your book.

2

$$\begin{array}{r} 6\ r23 \\ 26\overline{)179} \\ 156 \\ \hline 23 \end{array} \qquad \begin{array}{r} 4\ r20 \\ 34\overline{)156} \\ 136 \\ \hline 20 \end{array} \qquad \begin{array}{r} 3\ r36 \\ 43\overline{)165} \\ 129 \\ \hline 36 \end{array} \qquad \begin{array}{r} 2\ r50 \\ 56\overline{)162} \\ 112 \\ \hline 50 \end{array}$$

3

$$\begin{array}{r} 8\ r27 \\ 65\overline{)547} \\ 520 \\ \hline 27 \end{array} \qquad \begin{array}{r} 8\ r19 \\ 36\overline{)307} \\ 288 \\ \hline 19 \end{array} \qquad \begin{array}{r} 7\ r23 \\ 24\overline{)191} \\ 168 \\ \hline 23 \end{array} \qquad \begin{array}{r} 6\ r9 \\ 46\overline{)285} \\ 276 \\ \hline 9 \end{array}$$

Divide the following and prove:

4	$26\overline{)221}$	$35\overline{)245}$	$44\overline{)162}$	$56\overline{)208}$	$68\overline{)182}$
5	$36\overline{)184}$	$24\overline{)210}$	$66\overline{)244}$	$45\overline{)182}$	$54\overline{)312}$
6	$27\overline{)214}$	$65\overline{)364}$	$46\overline{)320}$	$34\overline{)215}$	$25\overline{)251}$
7	$54\overline{)452}$	$36\overline{)362}$	$64\overline{)480}$	$26\overline{)266}$	$46\overline{)404}$
8	$24\overline{)732}$	$45\overline{)405}$	$54\overline{)400}$	$34\overline{)126}$	$59\overline{)283}$
9	$16\overline{)494}$	$14\overline{)276}$	$26\overline{)528}$	$46\overline{)904}$	$34\overline{)685}$

Finding the Correct Quotient Figure

1 Study the work in each example. Which quotient is correct—7, 8, or 9?

```
  9
45)364
 405
```

```
  7
45)364
 315
  49
```

```
  8 r4
45)364
 360
   4
```

In the first example, the quotient 9 is too large. You cannot subtract 405 from 364.

In the second example, the quotient 7 is too small. The remainder, 49, is larger than the divisor, 45.

In the third example, the quotient is correct. The remainder, 4, is less than the divisor.

Decide which of the quotients below are not correct. Copy the examples and find the correct quotients and remainders. Prove your work.

2	4 23)86	3 35)96	8 46)388	7 25)165	6 19)114
3	7 31)245	9 82)750	7 64)442	8 52)415	7 66)526
4	5 94)465	9 85)800	8 73)575	6 36)192	8 33)300
5	4 45)200	6 26)176	9 34)339	4 91)441	8 24)200
6	9 17)163	8 16)127	7 18)120	5 44)225	8 61)544
7	9 22)188	8 32)246	9 43)427	5 56)314	4 75)325

Practice in Division

1 Multiply each number in line A by each number in line B. On folded paper, write the products only.

A	46	35	54	45	36	55	34	44
B	5	8	4	7	3	9	2	6

Divide the following. Prove your answers.

2	24)156	15)250	54)216	25)625	16)706
3	24)216	34)144	46)199	24)110	56)241
4	26)111	46)957	36)144	35)700	25)758
5	45)315	35)151	56)911	46)750	25)168
6	54)285	45)925	44)191	55)245	44)244
7	45)240	34)578	24)135	56)805	46)250
8	56)299	36)201	46)966	55)275	34)188
9	34)544	25)109	46)644	45)235	36)540
10	35)225	46)289	35)595	26)140	54)333
11	45)280	26)170	45)720	55)344	36)125
12	44)275	34)884	54)925	34)211	25)950
13	26)190	35)175	24)891	26)676	45)180
14	46)710	36)758	45)207	18)841	56)350
15	16)741	14)766	15)912	19)844	17)961
16	14)622	55)440	24)168	44)419	54)763

Practice in Division

1 Multiply each number in line A by each number line B. On folded paper, write the products only.

49	58	39	68	57	48	69	37
2	6	3	7	4	8	5	9

Divide the following. Prove your work.

2	18)144	68)204	49)210	28)121	58)507
3	68)291	48)212	29)150	58)252	67)550
4	38)645	67)485	18)675	49)312	19)925
5	67)621	49)833	28)171	27)756	68)480
6	48)251	58)361	37)677	59)250	29)220
7	69)287	29)244	98)411	28)208	59)365
8	68)561	59)308	39)675	68)424	47)911
9	88)363	68)625	99)812	27)561	78)631
0	69)635	89)277	28)230	68)500	29)895
1	88)352	27)907	98)904	39)365	79)711
2	77)545	88)624	39)321	97)708	57)513
3	98)315	69)552	88)616	89)725	28)263
4	99)396	58)421	87)804	57)476	69)512
5	98)200	78)325	58)522	79)325	47)890
6	37)342	89)316	38)722	48)316	77)419

Problems

1 Ellen's mother bought 24 cans of peaches for $6.24. What was the price per can?

2 At $12 a ton, how many tons of coke can be bought for $168?

3 At an average speed of 35 miles per hour, how long will it take a truck to go 910 miles?

4 Dick was paid $1.80 for picking 45 quarts of cherries. How much was he paid per box?

5 Ben's father is saving $25 a month. In how many months can he save $225?

6 With 28 trees in a row, how many rows will 980 trees make?

7 At an average of 28 bu. per acre, how many bushels of wheat will I get from a field of 275 A.?

8 Fred's father paid $3600 for 48 acres of land. What was the price per acre?

9 When a truck runs 14 miles on a gallon of gasoline, how many gallons will be needed for a trip of 406 miles?

10 Ray's bicycle wheels are each 66 inches around. How many times will a wheel go around when he rides a mile? (1 mile = 5280 feet.)

11 At an average speed of 56 miles an hour, how long will it take a train to run 448 miles?

12 A family rented a house for $420 a year. How much was the rent per month?

13 Ida is saving 25¢ a week to buy an $18.75 war bond. How long will it take to pay for the bond?

Practice in Division

1 Multiply each number in line A by each number in line B. On folded paper, write the products only.

A	76	85	94	75	96	84	95	86
B	3	7	9	4	6	8	2	5

Divide the following. Prove your answers.

2	16)435	68)432	21)819	26)600	24)1497
3	60)561	36)504	28)995	45)770	37)7700
4	89)816	23)700	19)925	26)988	85)3060
5	27)972	87)720	45)741	32)981	28)5712
6	86)622	24)820	15)763	45)645	36)1350
7	96)400	20)411	54)500	26)754	12)1252
8	11)882	26)881	29)899	94)580	19)1510
9	84)523	32)875	54)650	46)953	45)3507
10	34)991	54)872	25)700	94)752	98)3344
11	83)509	17)695	67)481	35)925	72)3488
12	709 ÷ 85	660 ÷ 36	998 ÷ 54	4011 ÷ 63	
13	801 ÷ 39	603 ÷ 67	841 ÷ 23	2800 ÷ 71	
14	881 ÷ 48	551 ÷ 67	500 ÷ 16	4503 ÷ 57	
15	731 ÷ 36	630 ÷ 77	981 ÷ 56	2116 ÷ 46	
16	791 ÷ 26	565 ÷ 79	702 ÷ 78	3149 ÷ 67	
17	827 ÷ 29	640 ÷ 73	518 ÷ 92	4516 ÷ 61	
18	721 ÷ 43	942 ÷ 52	426 ÷ 18	2385 ÷ 75	

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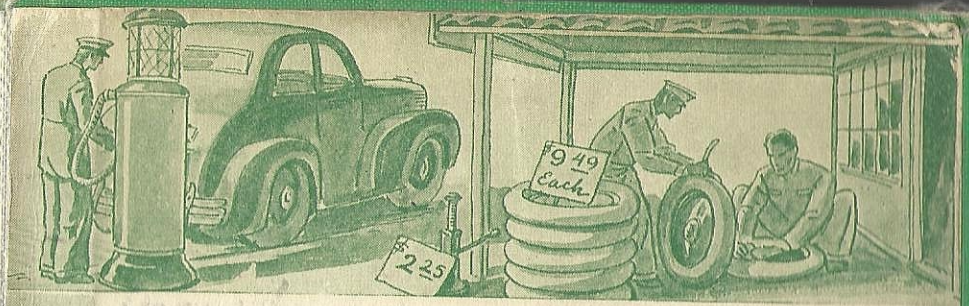
1	2	3	4	5	6	7	8	9
2)2	2)4	2)6	2)8	2)10	2)12	2)14	2)16	2)18
1	2	3	4	5	6	7	8	9
3)3	3)6	3)9	3)12	3)15	3)18	3)21	3)24	3)27
1	2	3	4	5	6	7	8	9
4)4	4)8	4)12	4)16	4)20	4)24	4)28	4)32	4)36
1	2	3	4	5	6	7	8	9
5)5	5)10	5)15	5)20	5)25	5)30	5)35	5)40	5)45
1	2	3	4	5	6	7	8	9
6)6	6)12	6)18	6)24	6)30	6)36	6)42	6)48	6)54
1	2	3	4	5	6	7	8	9
7)7	7)14	7)21	7)28	7)35	7)42	7)49	7)56	7)63
1	2	3	4	5	6	7	8	9
8)8	8)16	8)24	8)32	8)40	8)48	8)56	8)64	8)72
1	2	3	4	5	6	7	8	9
9)9	9)18	9)27	9)36	9)45	9)54	9)63	9)72	9)81



MEASURES OF TIME

60 sec. = 1 min.
60 min. = 1 hr.
24 hr. = 1 da.
7 da. = 1 wk.
52 wk. = 1 yr. (nearly)
12 mo. = 1 yr.
365 da. = 1 common yr.
366 da. = 1 leap yr.

LIQUID MEASURE

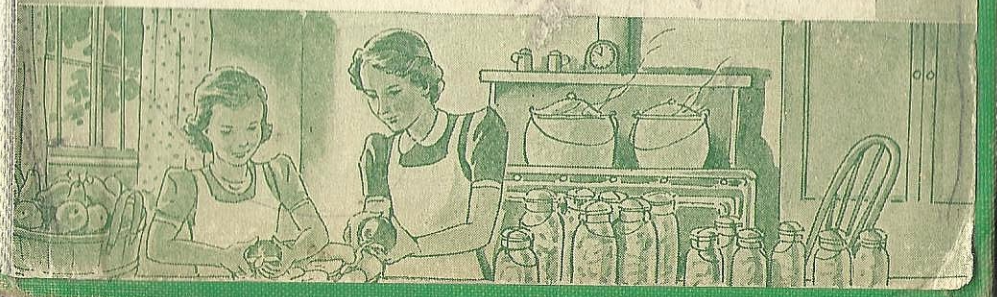
2 cups (c.) = 1 pint (pt.)
2 pints = 1 quart (qt.)
4 quarts = 1 gallon (gal.)

DRY MEASURE

2 pints = 1 quart
8 quarts = 1 peck (pk.)
4 pecks = 1 bushel (bu.)

LONG MEASURE

12 inches (in.) = 1 foot (ft.)
3 feet = 1 yard (yd.)
5280 ft. = 1 mile (mi.)
1760 yd. = 1 mile

MEASURES OF WEIGHT

16 ounces (oz.) = 1 pound (lb.)
2000 pounds = 1 ton (T.)